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PAFFORD, JOAN M. Attitudes Toward Physical Activity Held by Selected Students and Secondary School Teachers of the Greensboro Public Schools System. (1974) Directed by: Dr. Pearl Berlin. Pp. 148.

The purpose of this study was to investigate the attitudes toward physical activity held by physical education specialists. A further purpose was to compare the attitudes of physical educators to those perceived by students and general secondary teachers in a specified population. Subjects participating in the study were 66 physical educators, 515 students, and 52 secondary teachers in the secondary school program.

All subjects responded to Kenyon's Attitude Inventory, a semantic differential form, concerned with seven concepts: (a) physical activity as a social experience, (b) physical activity for health and fitness, (c) physical activity as a thrill but involving some risk, (d) physical activity as the beauty in human movement, (e) physical activity for the release of tension, (f) physical activity as prolonged and strenuous training, and (g) physical activity as games of chance.

Data analysis consisted of: (a) scoring and calculating means for each scale comprising each concept. (b) profile plotting and analysing concepts for all groups of subjects, and (c) computing t tests and ANOVAS to determine significances of difference among concepts as perceived by the subject sub-groups.

Profile analysis identifies numerous similarities among meanings assigned to the concepts. Statistical results reveal five differences between and among sub-group attitudes. Between male and female physical educators, differences at the .01 level were found in the concepts for physical activity for health and fitness, as beauty in human

movement, and as games of chance; at the .05 level differences were found for physical activity as a social experience, and for the release of tension. In general, women indicated more distinct attitudes toward physical activity than did men physical educators. Between junior high and senior high school specialists, a difference was found for physical activity as a social experience at the .05 level of confidence. Among physical educators with varying years of teaching experience a .05 difference was found for physical activity as games of chance. Between secondary teachers and physical education specialists, a .01 level of significant difference was found for physical activity as a thrill but involving some risk. Between students and physical educators, differences were found for physical activity as prolonged and strenuous training at the .05 level; and as a social experience, as beauty in human movement, for the release of tension, and as games of chance, calculations at the .01 level of significant difference were found. Overall, physical educators perceive physical activity with more meaning than students. In general, the sub-groups junior high/senior high physical educators, secondary teachers/physical educators, and physical educators with varying years of teaching experience have similar attitudes toward physical activity.

ATTITUDES TOWARD PHYSICAL ACTIVITY HELD BY SELECTED  
" STUDENTS AND SECONDARY SCHOOL TEACHERS  
OF THE GREENSBORO PUBLIC SCHOOL SYSTEM

by

Joan M. Pafford

A Thesis Submitted to  
the Faculty of the Graduate School at  
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Approved by

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## CHAPTER I

### INTRODUCTION

One of the functions of schools is to insure the continuity of a society and the perpetuation of its culture. This objective is based on the premise that in order to perpetuate their society

We are sometimes in danger of seriously neglecting the non-cognitive facets of life, not only in the schools but in social life generally.... The inner life of feeling and appreciation and the countless values associated with that life deserve far more attention than they commonly receive.

- Sterling M. McMurrin

## CHAPTER I

### INTRODUCTION

One of the functions of schools is to insure the continuity of a society and the perpetuation of its culture. This objective is based on the premise that in order to perpetuate their society as adults, children need to learn certain essentials. Furthermore, the commitment to such a function is grounded in the assumption that the institution referred to as education reflects the expectations of society at large.

Scientific advancements and discoveries during the past half century have been unparalleled. Realizing that our knowledge of physical nature has reached a point where the human race can be destroyed, one becomes more conscious of how underdeveloped is the knowledge of human nature. For those individuals who live in a republic where democratic personal relationships play a major role in their development, one expects that all of the areas within an educational curriculum are capable of making positive contributions to democratic behavior of the students. Therefore, organized school programs should guide the student to a better understanding of the culture in which he lives.

Educators today cannot concern themselves only with imparting knowledge and encouraging independent thinking. They also deal with creation and improvement of attitudes generally considered to be socially desirable. Attitudes that best fit the individual for the

functions he must perform in a complex and changing culture need to be established. In accepting this point of view, the building of desirable attitudes becomes as educational objective.

In a progressive society, individuals need to know, to think, to feel, and to act. Physical education has the capability of being a strong force in the curriculum in developing these behaviors. As a school discipline, physical education joins other areas of subject matter in giving the information that permits one "to know" as well as provide experiences "to think, to feel, and to act." That is to say, there is concern about what the subject matter does to the student as well as what the student does to the subject matter.

Physical educators seek to establish programs which provide experiences leading to the development of positive attitudes toward active participation in physical activity. Such experiences encourage students to seek further physical activity after leaving the organized school program. Since personal attitudes affect the selection or avoidance of activities, the study of attitudes toward activity can contribute to the evaluation and development of good physical education programs. And proper evaluation and program construction includes research of those attitudes.

To provide better guidance to students, the teacher should be aware of the attitudes of the young boys and girls whose learning they direct. But as the effectiveness of ideas are commonly assumed to depend somewhat upon the individual who communicates them, one asks about the attitudes of teachers. What do the teachers believe to be the value of physical activity? How do teachers' attitudes

compare to those of the students? How do teachers' attitudes toward physical activity compare to those of specialists in physical education? The intent of this research is to provide answers to such questions.

#### Statement of the Problem

The prime purpose of this study is to investigate the attitudes toward physical activity held by secondary physical education teaching staff members. A further purpose of the investigation is to compare teacher attitudes with those held by secondary high school students. Finally, the study also compares attitudes of physical education secondary teachers with selected senior high school personnel. All measures derive from responses to the Kenyon Attitude Inventory.

More specifically, answers are sought to the following questions:

Are attitudes of female physical educators and male physical educators comparable?

Are attitudes of senior high school physical educators and junior high school physical educators comparable?

Are attitudes of physical educators with varying years of teaching experience comparable?

Are attitudes of physical educators and students comparable?

Are attitudes of physical educators and other senior high school personnel comparable?

For which attitude concepts, if any, are statistically significant differences identifiable among students, secondary teachers and specialists in physical education?

### Definitions of Terms

For clarity of specific terms used in this study the following definitions are included:

Attitude is "...a latent or nonobservable complex, but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular object whether it be concrete or abstract (Kenyon, 1968c, p. 567)."

Senior high school personnel are the teachers and administrators of Ben L. Smith Senior High School, Greensboro, North Carolina.

Physical activity denotes "organized, (structured), nonutilitarian (in an occupational or maintenance sense), gross human movement, usually manifested in active games, sports, calisthenics, and dance (Kenyon, 1968b, p. 97)."

Secondary physical education teaching staff are the specialists instructing in the junior and senior high schools, grades seven through twelve, of the Greensboro Public Schools.

The semantic differential is "the successive allocation of a concept to a point in the multidimensional semantic space by selection from among a set of given scaled semantic alternatives (Osgood, Suci, and Tannenbaum, 1957, p. 26)."

### Assumptions of the Study

Certain underlying assumptions are to be considered in connection with this investigation. Basic to the study is acceptance of the notion that attitudes are measurable. Moreover, the assumption

that the Kenyon Attitude Inventory is a valid and reliable instrument is fundamental to the strategy, the data and analyses of the questions framing this investigation. Lastly, the study assumes that the responses to the semantic differential were honestly given by all subjects.

#### Scope of the Study

The specific focus of this investigation is limited to the secondary specialists in physical education employed by the Greensboro Public Schools system during the academic year 1973-1974. Previous research conducted with the students, teachers, and administrators of Ben L. Smith Senior High School is also utilized in the data analysis and interpretation\*. Finally, the attitude descriptions in this study are limited to dimensions included in the Kenyon Attitude Inventory.

#### Significance of the Study

During the past decades there has been more and more study of attitudes as a part of the educational process. It is generally accepted that attitudes may represent motives for learning. Attitudes are also believed to influence the use of skills and knowledges already learned. The understanding of the nature of attitudes toward physical activity may be considered to be an integral part of the development

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\* Attitude research carried on at the Center for Innovation in Secondary School Physical Education (Ben L. Smith Senior High School) during the '72-'73 academic year generated comparative data for this study. In effect, then, this inquiry is considered to be a cooperative study involving the Center and the personal endeavors of the investigator.



of relevant physical education programs.

The thrust of past attitudinal research has been directed at student attitudes. There is a need, however, to extend that concern. Little has been done to investigate teacher attitudes toward physical activity. These individuals, in key positions of leadership, have considerable opportunity to influence the development of attitudes. The need for educators to recognize and understand their own dispositions toward physical activity, as well as the values of students, warrants careful examination. Attitudes of physical educators toward physical activity is no exception.



## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### Introduction

Definitions. Educators as well as sociologists and psychologists have been deeply involved with the understanding of human nature, and thus with the study of attitude. As individuals attempted to seriously study attitudes, they also attempted to define the term. Thurstone (1929), an early researcher of attitude, defined the term as "the sum total of a man's inclinations and feelings, prejudice or bias, preconceived notions, ideas, fears, threats, and convictions about any specific topic (p. 6)." Allport (1935) stated that an attitude is "a mental and neutral state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related (p. 810)." Droba (1933) simplified the meaning by stating "an attitude is a certain subjective state of preparation to action (p. 447)." Another social psychologist, Newcomb (1950), wrote, "An individual's attitude toward something is his predisposition to perform, perceive, think and feel in relation to it (p. 118)."

Physical educators interested in the study of attitudes also explained the meaning of the term attitude. Brownell and Hagman (1951) defined attitude as "emotionalized feelings about anything (p. 371)." Scott (1960) believed attitude to be "a feeling or mood relative to action (p. 308)." For interpretation in this study the description

of attitude set forth by Kenyon was adopted. Kenyon (1968c) stated that an attitude ". . . is held to be a latent or nonobservable complex, but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular object whether it be concrete or abstract (p. 567)."

Assumptions. Previous research suggested certain assumptions regarding attitudes. For example, it is assumed that attitudes are learned. Another assumption is that attitudes can be changed. Third, it is generally held that attitudes can be measured.

Brownell and Hagman (1951) made the point that "education must be concerned with attitudes because they are learned or acquired and can be influenced by direct teaching (p. 371)." Kingsley (1949) indicated that attitudes may also be acquired through deliberate cultivation and through practice (pp. 437-438). Another point of view is that attitudes may be acquired by exposure to experiences, exposure to strong incidences, by emulation, and by association (Brownell and Hagman, 1951, p. 371). Siedentop (1972) reinforced this point by saying that attitudes and values are learned by the process of identification, by emulating persons who are admired and with whom there is an emotional attachment (p. 100).

If attitudes are learned it then holds that they can be changed. "Since attitudes are learned in relation to objects, persons, groups, or norms, it follows that they are not unchangeable (Sherif, 1948, p. 238)." Zimbardo and Ebbesen (1969) stated, ". . . attitudes are seen as enduring predispositions, but ones which are learned rather than innate. Thus, even though attitudes are not

momentarily transient, they are susceptible to change...(p. 6)."

Thinking of attitudes as underlying learned predispositions suggested that all the techniques which are known to increase or decrease learning should be applicable to producing change in attitude (Zimbardo and Ebbesen, 1969, p. 6).

But another point to bear in mind was made by Siedentop (1972): "The truth is, and it is well supported by psychological and psycho-analytic data and opinion, that to change attitudes and values requires a great deal of time and, most importantly, the right kind of person handling the entire affair (p. 100)." In regard to physical education he further stated, "Even with these requirements, it is not the activity itself that causes any change that might take place. It results from the interaction among persons as they participate in the activity together (p. 100)."

Problems of measurement. Thurstone, in 1928, stated "attitudes can be measured (p. 534)." But he also conceded that "an attitude is a complex affair which cannot be wholly described by any single numerical index (p. 6)."

Since most measures of attitude are really measures of opinion, opinion has been accepted "as expressed attitudes" (Remmers, 1950, p. 7). Thurstone (1929) emphasized, "All we can do with an attitude scale is to measure the attitude actually expressed, with full realization that the subject may be hiding his true attitude or that the social pressure of the situation has made him really believe that he expresses (p. 10)."

A continuous problem in studying attitudes is whether expressed attitudes are the real attitudes of an individual. Because they are extremely complex phenomena, the results of attitude tests reveal only part of the total attitudinal makeup of the individual. There is the tendency to suspect what it is that is actually measured. There may well be a discrepancy between an attitude measurement score and the overt behavior of an individual studied.

Newcomb (1950) stated that "the measurement of attitude is probably the most characteristic and significant technical achievement of social psychology (p. 193)." Yet there are limitations in the approach to the understanding of attitudes. But the study of attitudes has its values. It lends direction. As Meyers (1962) indicated, "the findings of attitude research are aids to the teacher and are not infallible (p. 402)." Locke's (1969) message to physical educators was that research will not tell us exactly what to do, but research gives us facts (p. 12). Upon such facts responsible professionals base their actions.

#### The Professional Responsibility for the Investigation of Attitudes

To be a professional means to accept responsibility-- responsibility for actions and for results. The professional is called upon to act in the best interests of those served. Teachers serve students; they help them grow. In accepting responsibility for professionally influencing the lives and actions of other people, teachers strive to exert a positive rather than negative influence (Mager, 1968, p. 99).

Newcomb (1950) stated that "there are many reasons for wanting to know how individuals differ from each other in attitudes, or for wanting to know the distribution of favorable and unfavorable attitudes toward something within one or more specified populations (p. 193)." It is the responsibility of the professional teacher to know how attitudes affect the product of his labors--the student--and also the process--the structuring of learning experiences.

Serving students. Teachers must of necessity be conscious of their responsibilities toward the individuals with whom they work. And they must be aware that they are affecting the student in many ways. "Teachers should recognize that any experience to which an individual is exposed can modify his total behavior and effect changes, both temporary and permanent, in the many dimensions of his being (Frost, 1971, p. 7)."

Teachers must always be aware of their potential influence on a student. Rice (1946) stated: "A great deal, in terms of attitudes, is derived by the pupil from the teacher. To a large extent the matter involves an emotional transfer, with the teacher acting as the terminal from which influences flow, either negatively or with positive force. The teacher therefore becomes a dynamic force in the formation of pupil attitudes (p. 256)."

Rice (1946) further commented that "the educator is morally bound to see that the learner approaches his task free from distracting and prejudicial influences (p. 224)." The building of desirable attitudes, then, is viewed as an educational objective. "There can be not worthwhile teaching without cognizance of this fact (Rice, 1946, p. 224)."



Understanding self. Teachers do not like to admit their potential to influence and direct others. But in reality it is important to agree that a leader generally possesses power, influence, and authority. "The teacher may benefit a great deal by learning to examine who he is and what he is trying to do, not solely by devoting his entire attention to how-to-do-it techniques (Zaleznik and Moment, 1964, p. 462)."

"As important as anything may be the teacher's philosophy of life and his attitude toward the task at hand (Frost, 1971, p. 175)." If he is to convince others that what he expects his students to do is important enough to deserve their time and energy, then the teacher must manifest a conviction that the goals are both worthy of the student's best effort and possible of achievement.

How the teacher is perceived by the student can have effect on the student's learning. As Hovland (1953) points out "...various effects of the communicator are mediated by attitudes toward him which are held by members of the audience. These attitudes are related to preceptions of the communicator's credibility, including beliefs about his knowledge, intelligence, and sincerity (p. 20)."

Kozman (1951) believed "...if the development of democratic relations is important, it depends on democratic attitudes; how the teacher teaches through her objectives could determine many of those attitudes (p. 255)."

Thus, it is important to consider feeling states of the teacher as well as the student. The fact that one's attitudes, his feelings for or against something, influence the way he acts or reacts makes

the consideration of attitudes important from the educational standpoint (Brownell and Hagman, 1951, p. 371).

Developing programs. Since education is concerned with the completeness of human beings, the teacher of physical education is in an inescapable position of affecting the whole person (Oberteuffer and Ulrich, 1970, p. 3). Physical educators strive for the same general goals of education as a whole, through the medium of physical activity. As teachers, physical educators have a part in the shaping of the personality of their students. They become overseers and developers of personality by influencing the dominant attitudes and goals of that part of our culture related to games, sports, and recreation in general (Cowell, 1960, p. 287).

Oxendine (1966) believed that physical education is "in a unique position for affecting attitude and behavior (p. 23)." He reasoned that "the emotional involvement usually associated with these activities, and the degree of interaction among students are important for social development (p. 24)."

Barrow and McGee (1964) indicated that the student is not physically educated through the psychomotor and cognitive domains alone. There is another aspect of learning in the teaching of activity--the affective domain. They wrote that "the teacher and coach has an obligation to teach attitudes, appreciations, and ideals by both precept and example (p. 133)." Attitudes, then, are bases of behavior, and physical education is involved with behavior. Thus the teacher must foster desirable outcomes through activity.



An important aspect of teaching is guiding students in making their own evaluations. This means making decisions and choices that are socially acceptable and also giving students the opportunities for achievement, success, and satisfaction. Physical educators are obligated to promote physical activity for the present and the future. "Not every student can be a championship performer, but each can develop a healthy attitude toward activity (Barrow and McGee, 1964, p. 397)."

Also, studies established that attitudes serve as the motivating media to condition a student's orientation to learning. They also influence the use of skills and knowledge which have been learned. Attitudes play an important role in that they may determine an individual's willingness to learn (Campbell, 1968, p. 456). If undesirable attitudes are obstacles to learning, it would follow that the removal of those obstacles should facilitate learning. Recognizing the attitudes of students could lead to better guidance and teaching.

Researching attitudes. There is sound reason for the continuous study of student attitudes. Such efforts have implications for improving programs. As early as 1926 Bowdlear and Buskirk acknowledged the need for attitude measurement, and stated that "the attitudes toward physical activity cannot be taken for granted (p. 595)."

The significance of attitude measurement was pointed out by Kelly (1955). "If we want carry-over activities, we must teach carry-over attitudes. And if we wish to know how effectively we teach carry-over, we should measure and evaluate our results (p. 86)."

She also stated, "It is distinctly worthwhile to measure attitudes if one wishes to face honestly the degree of success which a program is achieving (p. 86)."

The conduct of research demands time and energy, but it is necessary. As Brownell and Hagman (1951) pointed out, "an attempt to appraise by the best possible means whether particular objectives are achieved, place a significant responsibility on the person who would become an effective teacher of physical education (p. 374)." Kidd (1971) commented that there are "indications that physical education has failed to meet the needs of the students in the past (p. 35)." In the past the rallying cry of those persons with high aspirations and seeking higher achievements was "excelsior." In education, and certainly in physical education, the mood of the times seems to be "change."

One of the characteristics of our society and current way of life is change. Education exemplifies this in its own ways and means. Programs of education cannot be static; they warrant critical scrutiny in relation to changing needs and goals. As Bookwalter and VanderZwagg (1969) reflected: "...our professions' progress will result from the knowledge, motivation, and competence of its collective membership (p. 316)."

#### Previous Attitude Research

An examination of previous attitude research by physical educators indicates the popularity of this area of inquiry over the past forty years. Varied techniques of research have been developed by psychologists and adopted for use in physical education. Much of the

early attitude research in physical education utilized the method of simple checklists or questionnaires. Later, a number of different scaling measures were developed to measure attitudes. Several were refined and used extensively. Physical educators adopted these techniques to construct measurement instruments for their field. These techniques include: (a) Thurstone's method of equal-appearing intervals, (b) Likert's method of summated ratings, and (c) Osgood's semantic differential. The major portion of physical education attitude studies involve the use of the Thurstone or Likert, or both, methods of measurement. A recent trend has been measurement by means of the semantic differential.

One of the earliest studies was reported by Alden (1932) concerning college womens' unfavorable attitudes toward a required physical education program. A checklist of 25 items was employed.

Driftmier (1933) felt it important to consider student interests to provide greater and more lasting benefit of physical education activities. A study using personal observation, questionnaire, and physical and intelligence measures researched the interest of high school girls toward activities.

In order to define the physical, social, and unclassified objectives sought by high school students, Lapp (1933) employed a questionnaire. Areas of investigation were student interest toward physical education, the influence of the teacher's attitudes and habits, character education, and the carry-over values of the physical education curriculum.

Cowell (1939) surveyed the purposes sought in physical education by secondary students. Cowell concluded that curriculum based on student purposes would be more meaningful since student want was taken into account.

Cowell, Daniels, and Kenney (1951) studied general and specific purposes of physical education programs by surveying college males, physical education directors, and college presidents. They sought to ascertain agreement and/or disagreement as to the purposes of good health and physical condition, carry-over value, and self-control and sportsmanship.

At Louisiana State University, Kistler (1954) tested freshman males as to the values derived from physical education activity. First, opinions as to whether the subjects benefited from physical education were sought. Then students indicated the foremost value derived from their participation, such as health values, skill improvement, skill knowledge, or social experiences.

An early study using the scaling method for attitude research was done by Moore (1941). She administered a Remmer master scale to measure attitudes of college women toward physical activity as a means of recreation. She sought an answer as to why there was a lack of participation in the intramural program.

Carr, in 1945, constructed the first attitude scale following the Thurstone format. She sought to study the relationship between success in physical education and selected attitudes of high school freshman girls (Carr, 1945).

Wear (1951) researched and developed an attitude inventory, later called the Wear Physical Education Attitude Inventory. The Likert method of scale construction was employed. The original inventory contained 120 items. Short forms were derived for men and women. Later forms were revised for use on the senior high school level by Kneer (1956). Kneer's scale can also be suitable for junior high school evaluation as it has an eighth grade reading level.

Drinkwater (1960) sought to evaluate the attitude of college women toward physical education as an activity course using the Likert method of measurement. Statements were developed which related to desired objectives of physical education in different areas.

Attitudes toward athletic competition has attracted attention for physical educators also. McCue (1953) used a combination Likert and Thurstone technique in her scale to measure individual and group attitudes toward intensive competition in team games. Scott (1953) revised the McCue Attitude Scale to examine attitudes of parents, teachers, and administrators toward intensive competition in team games at the elementary school level. McGee (1956) combined use of the Likert and Thurstone measures to compare attitudes of school administrators, teachers, and parents toward intensive competition for high school girls.

McAfee (1955) investigated sportsmanship attitudes of sixth, seventh, and eighth graders using the situation response Sportsmanship Preference Record. It is interesting that the sportsmanship attitudes become progressively lower as grade level increases.



In 1959, Galloway tapped another angle of attitude research when she devised an inventory as a means of measuring the effectiveness of programs relating the sociological, psychological, and spiritual values of physical education (Galloway, 1959). Mercer (1961) later modified that scale to use with high school girls.

The identification of scales and reported studies of attitude toward some aspect of physical activity was summarized by Burnstine (1966). Until recently the focus was on: (a) physical education, (b) physical activity as recreation, and (c) competition. Little, if any, research was directed toward the broader attitude toward physical activity.

In 1963, a project was undertaken by Kenyon to develop a model conceptualizing physical activity in general. Later six subdomains defining physical activity were determined through testing and analysis. In 1968, Kenyon published the validity and reliability data for the concepts designed to assess attitude toward physical activity. Construction of Kenyon's Attitude Toward Physical Activity Scales for assessing attitude soon followed. Use of the Kenyon scales enabled the inference of attitude toward physical activity.

Mullins (1969) investigated attitudes toward multidimensional physical activity as a function of race, sex, and socio-economic level utilizing Kenyon's ATPA Form D. Reichle and Jackson (n.d.) of the University of Houston studied the relationship of group membership of values toward physical activity. Two groups tested were male physical education major students and non major students.

Kenyon's ATPA Form D was selected to survey the attitudes of the two populations.

In 1968, Kenyon studied values toward physical activity held by students in four English-speaking countries. The study employed the semantic differential to measure meanings held for various concepts constituting the domain of "physical activity." The use of the semantic differential was a new approach to the measurement of attitudes by physical educators. The method allows for finer interpretations, is flexible in approach, easy to construct, and administratively economical. In selection of the bi-polar terms used in the attitude inventory, Kenyon employed adjectival comparisons of "evaluative" meaning only.

#### The Semantic Differential

In 1957 Osgood and associates introduced the semantic differential. The technique is a by-product of Osgood's work in experimental semantics and is now considered to be an appropriate approach to attitude measurement. In essence, the semantic differential studies attitudes by focusing on the "meaning" that people assign to a word or concept.

Simply stated, the semantic differential is a general form of measurement which specifies a concept and requires a respondent to indicate his/her perception of that concept by referring to a series of bipolar terms which Osgood calls "scales." The respondent to the semantic differential indicates, for each scale, the direction of his/her association and its intensity on a seven-step continuum. The technique combines controlled association and scaling procedures. The



semantic differential differs from previous measurement techniques which judge results distributed along a single continuum in that it acknowledges that meanings vary in some unknown number of dimensions.

The development of the semantic differential involved the use of factor analysis to determine the number and nature of factors entering into semantic description and judgment. Osgood's own research indicated that there are three dominant, independent dimensions which people use in judging concepts: there is an "evaluative factor", a "potency factor", and an "activity factor." Osgood pointed out that he does not imply that these three represent an exhaustive description of the meaning of semantic space. Recent work in refining this tool of measurement identifies four additional dimensions: density, orderliness, reality, and familiarity (LaVoie and Beutler, 1974, pp. 65-66). There is evidence for a number of "specific" factors yet to be researched.

Within Osgood's conception of "semantic space" the meaning of a concept can be represented as a particular point. Thus the label "semantic differential" points to the intended multivariate differentiation of concept meanings in terms of a limited number of semantic scales of known factor composition.

By applying the concept of semantic space to geometry, meaning is represented in a functional way. Each scale of bipolar adjectives represents a line in space. By having responses to several scales, a particular point in space emerges to represent meaning of a concept. The general meaning of a concept in several dimensions of semantic

space is determined as the subject interprets scales equated with the concept. Because interpretation occurs, meaning is then assigned.

This brings up an important understanding of the semantic differential. Numbers are assigned a scale continuum to permit statistical analysis. A number does not place a quantitative value on the words. Rather, it represents direction and intensity of that scale to that concept judged. The number leads to semantic interpretation. Final analysis shows various perceptions of the concept among populations studied.

Snider and Osgood point out the logic of the differential:

1. The process of description or judgment can be conceived as the allocation of a concept to an experiential continuum definable by a pair of polar terms.
2. Many different experiential continua, or ways in which meanings vary, are essentially equivalent and hence may be represented by a single dimension.
3. A limited number of such continua can be used to define a semantic space within which the meaning of any concept can be specified (1969, p. 31).

Osgood stated that the semantic differential "is a very general way of getting at a certain type of information, a highly generalized technique of measurement which must be adapted to the requirement of each research problem to which it is applied (1957, p. 76)." The success of the method lies in selecting the appropriate sample of descriptive polar terms. Ideally, the sample should be as representative as possible of all the ways in which meaningful judgments can vary, and yet be small enough in size to be efficient in use (Snider and Osgood, 1969, p. 58).

In the form of a critical review of the semantic differential, Heise (1970) was thorough. He stated that a number of basic considerations are involved in the semantic differential methodology, such as: (a) bipolar adjective scales are a simple, economical means for obtaining data on people's reactions, (b) ratings on bipolar adjective scales tend to be correlated with the dimensions evaluation, potency, and activity accounting for most of the convariation in ratings; that these three dimensions have been verified and replicated in a variety of studies, (c) some adjective scales are almost pure measures of the evaluative, potency, or active dimensions, thus allowing reliable measures of person's overall response to a concept, (d) the evaluative, potency, and active measurements are appropriate for obtaining effective responses, (e) the measure is notable for being a multivariate approach to affect measurement, and (f) the semantic differential has been used as a measure of attitude in a wide variety of projects (p. 235).

The semantic differential can be accepted at face validity. Osgood stated, "Throughout our work with the semantic differential we have found no reason to question the validity of the instrument on the basis of its correspondence with the results to be expected from common sense (1957, p. 141)." Further, the semantic differential is objective in that its operation and means of arriving at results are explicit and reproducible. Heise (1970) also mentioned the general validity is supported by studies which compare the semantic differential measurements with attitude measurements of traditional scales (p. 246).

In summation, the semantic differential is a general procedure for assessing attitude. It has three features that distinguish it as an instrument. First, it is easy to set up, administer, and code. Its reliability and validity has been demonstrated. Second, it is multidimensional rather than unidimensional, granting more information about the concepts measured. And third, since the form of the semantic differential is basically the same whatever the stimulus, research can cumulate.

One drawback to the semantic differential as used in this study is that it involves the evaluative factor only. Therefore, the "evaluation" scores tend to be upwardly biased. But this is acceptable because it is consistent among all groups compared.

Possibly the most important general contribution of the semantic differential is the provision of a single attitude space for all stimuli. It allows for analyses, comparisons, and insights that have not been previously made with the traditional methods of measurement.

#### Chapter Summary

In an attempt to better understand human nature, researchers have investigated attitudes. The fields of education, sociology, and psychology have been deeply involved in such research. The term attitude has been defined by leaders in their respective disciplines. Previous research indicates the belief of certain assumptions regarding attitudes. For example, attitudes are learned; attitudes can be changed; and attitudes can be measured.

With the recognition of the affective domain as an important aspect of physical education, there is the professional responsibility for the investigation of attitudes. Physical educators need to research personal attitudes and student attitudes to provide necessary and improved programs. Programs of physical education warrant study in relation to changing needs and goals. The investigation of attitude can provide direction for relevant physical education.

Previous attitude research indicates a variety of studies completed by physical educators. The main focus of attitude research is on physical education, physical activity as recreation and competition. Little research is directed toward the broad topic, attitude toward physical activity.

The semantic differential has become an accepted approach to attitude measurement. The technique studies the "meaning" people assign to a word or concept through their response to a series of bipolar terms. Each scored response leads to a particular point in semantic space. That point then indicates a semantic interpretation from which "meaning" is assigned. This "meaning" can be interpreted as attitude.

### CHAPTER III

#### PROCEDURES

In order to answer the questions framing this study, several procedures were carried out. First, the literature was surveyed. Then the data-gathering and analyses were planned. These procedures included: the selection of the sample, the selection of the semantic differentials, preparation of the obtained data for analysis, and the identification of analytic steps to be carried out in interpreting the data.

##### Selection of the Sample

The subjects involved in this study consisted of the 66 secondary physical educators employed by the Greensboro Public Schools system during the 1973-1974 school year. This comprised the total population of junior and senior high school teachers of physical education of the Greensboro school system.

A second grouping of subjects who yielded data reported in this study were students and teachers of Ben L. Smith Senior High School, Greensboro. A prior investigation of attitude toward physical activity had been conducted by the writer's advisor through The Center for Innovation in Secondary School Physical Education. Use of these data allowed comparisons to be made with those attitudes of physical educators of the same school system.



### Selection of the Attitude Instrument

The tool used for the evaluation of attitudes held toward physical activity was the Kenyon Attitude Inventory (Kenyon, 1968a).

Kenyon (1968b) proposed a model characterizing physical activity as a sociopsychological phenomenon. The model was based upon the assumption that physical activity can be reduced to more specific components; to logical subsets. A meaningful basis for such a procedure was the instrumental value physical activity is preceived to have for the individual (p. 97).

Kenyon reduced the domain "physical activity" to independent or quasi-independent subdomains. He listed six subdomains tested to represent the preceived instrumental value of physical activity. Those subdomains are: (a) physical activity as a social experience, (b) physical activity for health and fitness, (c) physical activity as the pursuit of vertigo, (d) physical activity as an aesthetic experience, (e) physical activity as catharsis, and (f) physical activity as an ascetic experience.

A seventh dimension was later added. "Physical activity perceived as 'chance' was added in view of its prevalence in the literature dealing with the classification of games and sports (Kenyon, 1968a, p. 5)".

For the model to substantively represent the sociopsychological characteristics of physical activity, two conditions were met: each subdomain had to be internally consistent; the various subdomains had to possess construct validity. The following remarks were made by Kenyon relative to these points:

The two necessary conditions for testing the worth of the hypothesized structure, namely, internal consistency and the subdomain independence, were sufficiently met to warrant the conclusion that the conceptual model postulated herein has some validity. This does not imply that all the dimensions of physical activity have been accounted for, nor does it imply that this is the only approach to characterizing physical activity (Kenyon, 1968b, p. 104).

To assess attitudes toward each of the seven dimensions of physical activity, the semantic differential approach was used, where each "perceived instrumentality" became a "concept." Eight scales, or items, each with seven positions of choice were employed for the judgment of each concept. The eight adjectival pairs were: good-bad, worthless-worthy, pleasant-unpleasant, sour-sweet, nice-awful, sad-happy, clean-dirty, and relaxed-tense.

#### Administration of the Semantic Differential

Permission was granted by the administration of the Greensboro Public Schools system to undertake the study. Principals and physical educators were notified by letter of the purpose of the inquiry and procedures to be followed involving their personnel.

The investigator traveled to each of the secondary schools on pre-specified dates to obtain responses from each member of the school's physical education department. Appointments were set up before the school day began. Time necessary to complete the semantic differentials was approximately fifteen minutes. Traveling to four schools per week, the data-gathering procedure required a three-week period.

### Preparation of Data for Analysis

A priori weights were assigned to each scale: one through seven or seven through one, alternating the direction of evaluation. The interval indicated by the subject responding to the scales yielded a numerical value corresponding to the assigned weights. Scores of five, six, and seven were considered to be the more highly evaluated. Scores of one, two, or three were arbitrarily explained as less highly evaluated. A score of four was considered to be a neutral response. These numerical values were used to calculate all mean scores.

Further, the investigator calculated the total score for each concept for each subject utilizing "derived weightings" generated from "a priori" weights through the method of reciprocal averages. The results obtained were almost identical to "a priori" weights. A decision was made to analyze all data using the "a priori" weightings. This was based in part, on the fact that the Center for Innovation Secondary School data was calculated according to "a priori" scores. It permitted comparisons between the researcher's obtained data and responses of other Greensboro Public Schools teachers and students.

### Analyses

First, all responses were scored and means calculated for each concept for each population; e.g., male physical education specialists, female physical education specialists, senior high school physical educators, etc. Means were then calculated for each of the eight scales per concept for each subject and for each sub-group.

To answer the questions seeking to compare the attitudes held toward physical activity by specific populations it was planned that profiles be drawn utilizing mean scale values. This was accomplished by drawing a line connecting each sub-group's mean score of each of the eight scales of the concept. These profiles facilitate a visual comparison of the subjects according to group. They also permit quick identification of the range of responses.

Essential to the interpretation of responses to the semantic differential which follows is the arbitrary designation of terms that describe scale means. Utilizing Griffin's (1972) and Buhrer's (1973) classification scheme, it was determined prior to analysis to interpret scale means as ranging from "extremely" at one end of the continuum through "neutral" in the middle of the continuum through "extremely" at the opposite pole. Figure 1 provides a detailed presentation of the interpretive plan for all means obtained in this study.

Statistically significant differences were assessed by submitting the means of each attitude concept to appropriate tests for significances of difference. An alpha level of .05 was arbitrarily selected to test obtained  $t$  and  $F$  values. Interpretations and the summary and conclusions of the inquiry were then made on the bases of all calculations.

X 1 : 2 : 3 : 4 : 5 : 6 : 7 Y

1.00 to 1.50 = Extremely X

1.51 to 2.50 = Quite X

2.51 to 3.50 = Slightly X

3.51 to 4.50 = Neither X or Y  
and/or  
Equally X or Y

4.51 to 5.50 = Slightly Y

5.51 to 6.50 = Quite Y

6.51 to 7.00 = Extremely Y

FIGURE 1

Assigned Values for Interpretation  
of Scale Means

#### CHAPTER IV

##### DATA AND ANALYSIS, AND INTERPRETATION

This chapter compares the responses of subjects which reveal their respective attitudes toward physical activity. It also reports statistical differences between subject population groups. The general format used in presentation of the data is: (a) reiteration of the specific research question, (b) presentation of the descriptive data, (c) analysis and interpretation of the obtained data, and (d) a summary of the findings.

##### Comparison of Male and Female Physical Education Specialists

The research question. To determine whether attitude toward physical activity held by male and female physical education specialists are comparable, the means of the scales for each concept were determined. These are reported in Table 1. The scale means were plotted to form profiles. These are shown in Figures 2, 3, 4, 5, 6, 7, and 8. Thus the question "Are attitudes of female physical educators and male physical educators comparable?" is answered.

Analysis and interpretation. The concept physical activity as a social experience, as seen in Figure 2, is perceived by male physical education specialists to be quite good, worthwhile, pleasant, sweet, nice, happy, clean, and relaxed. The female specialists perceive the social experience to be quite sweet, nice, happy, clean, and relaxed, also. But there is slightly stronger conceptualization of



TABLE 1  
Scale Means for Concepts Rated by Male  
and Female Physical Educators

Scale	Concept											
	Social Experience		Health and Fitness		Thrill and Risk		Beauty		Release of Tension		Training	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	6.11	6.61	6.17	6.71	5.68	5.41	6.23	6.71	6.43	6.68	5.49	5.42
2	6.49	6.71	6.20	6.74	5.77	5.65	6.03	6.39	6.34	6.45	5.83	5.68
3	6.06	6.58	5.40	6.32	5.25	5.19	6.03	6.71	6.23	6.55	4.20	4.29
4	5.63	5.77	5.20	5.74	4.91	5.00	5.63	5.84	5.43	5.74	4.29	4.52
5	5.91	6.45	5.69	6.26	5.40	5.13	5.89	6.55	5.71	6.29	4.69	4.52
6	5.91	6.38	5.63	6.06	5.29	5.06	5.83	6.29	5.91	6.26	4.83	5.06
7	6.11	6.13	5.86	6.06	5.46	5.06	6.23	6.39	5.91	6.19	5.37	5.29
8	5.63	6.06	5.17	6.19	3.77	4.13	5.11	6.45	5.40	6.38	4.40	3.94
											4.26	3.29

N = Male 35  
Female 31

**PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE**  
 Sports, games and other forms of physical recreation whose primary purpose is to provide opportunities for social participation; that is, to meet new people and continue personal friendships.

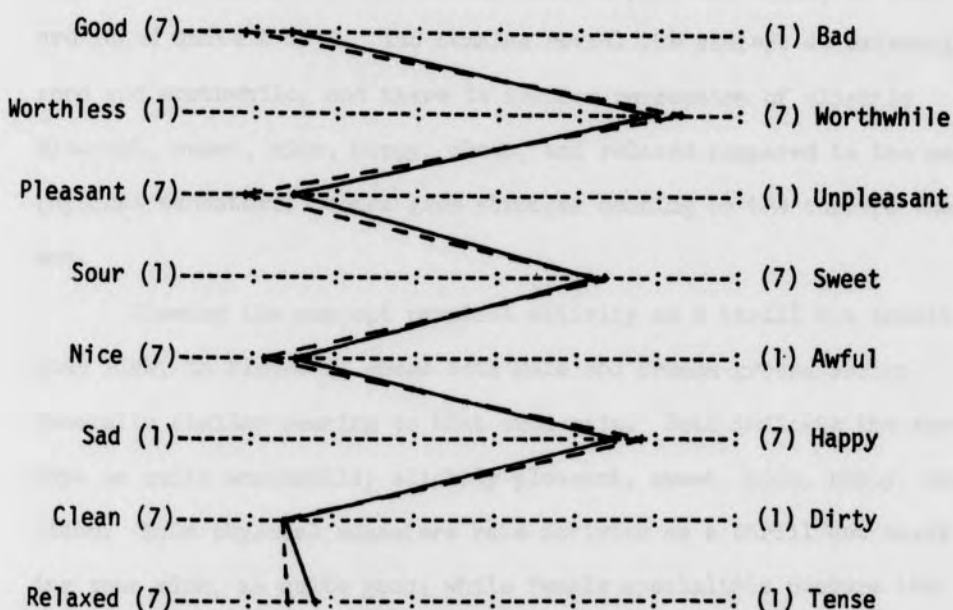


FIGURE 2

Profile of Scale Means for "Physical Activity as  
 a Social Experience" as Perceived by Male  
 and Female Physical Educators

Note: Male = \_\_\_\_\_  
 Female = -----

meaning by women for the scales good, worthwhile, and pleasant as they are interpretable in the "extremely" classification.

Physical activity for health and fitness, profiled in Figure 3, shows male physical education specialists evaluating that concept to be slightly sweet, relaxed, and pleasant. They have a stronger feeling of the terms good, worthwhile, nice, happy, and clean, as they are rated quite X or Y. The females reveal the concept as extremely good and worthwhile; and there is further perception of slightly pleasant, sweet, nice, happy, clean, and relaxed compared to the men physical educators. Women give stronger meaning to the concept than men.

Viewing the concept physical activity as a thrill but involving some risk, in Figure 4, shows both male and female groups assign generally similar meaning to that subdomain. Both indicate the concept as quite worthwhile; slightly pleasant, sweet, nice, happy, and clean. Male physical educators rate activity as a thrill but involving some risk, as quite good; while female specialists picture the concept as slightly good. The relaxed-tense poles reveal a neutral mean, indicating a lack of distinctiveness of meaning of the bipolar terms describing the concept.

Physical activity as the beauty of human movement, Figure 5, is stronger in meaning for the women physical education specialists than for the men. Women believe the value to be extremely good and pleasant; also quite worthwhile, sweet, nice, happy, and relaxed. Men also claim definite perception of beauty in movement evaluating the concept as quite good, worthwhile, pleasant, sweet, nice, happy,

PHYSICAL ACTIVITY FOR HEALTH AND FITNESS  
Participating in physical activity primarily  
to improve one's health and physical fitness.

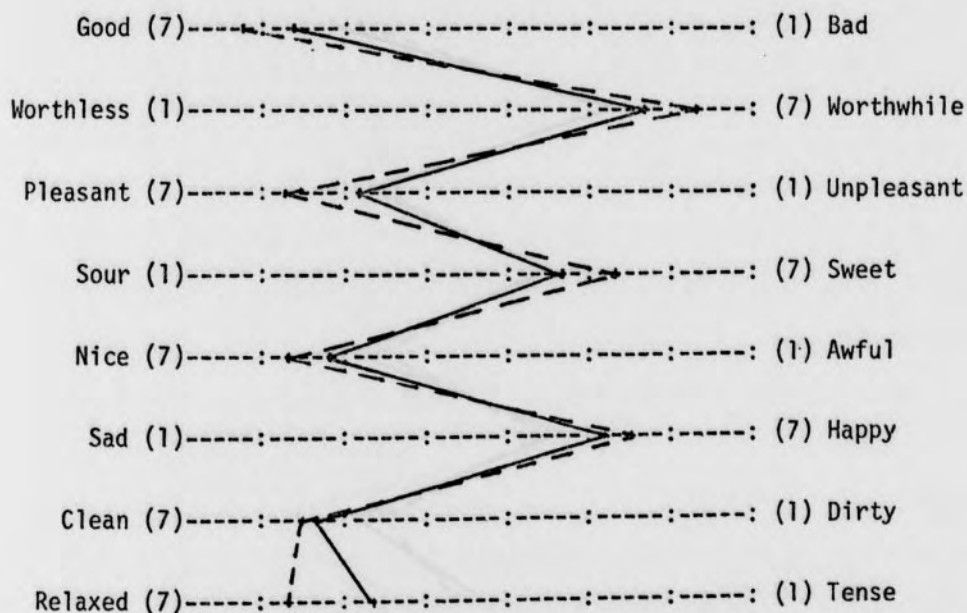


FIGURE 3

Profile of Scale Means for "Physical Activity for  
Health and Fitness" as Perceived by Male  
and Female Physical Educators

Note: Male = \_\_\_\_\_  
Female = - - - - -

**PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK**

Physical activities providing, at some risk to the participant, thrills and excitement through speed, acceleration, sudden change of direction, and exposure to dangerous situations.

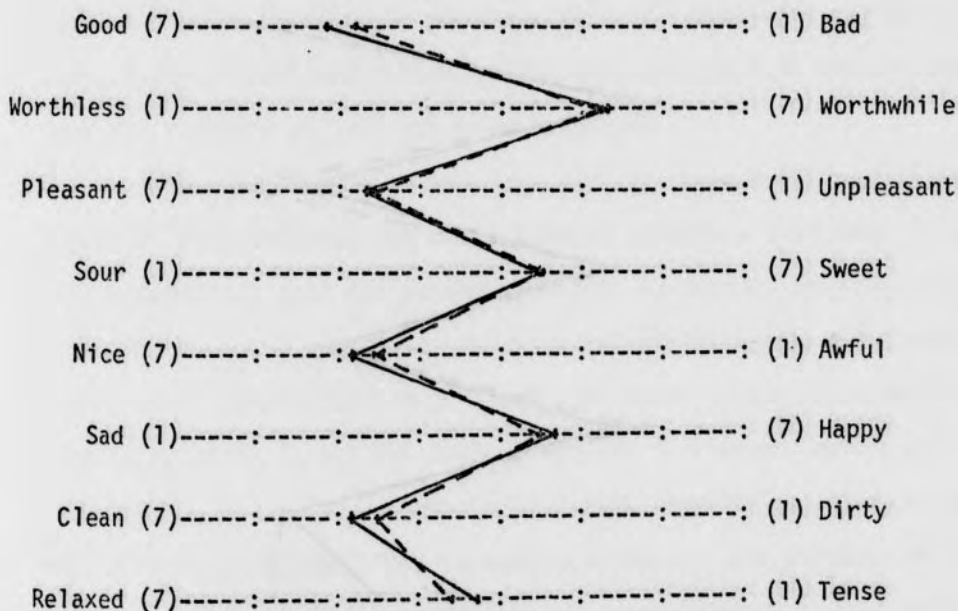


FIGURE 4

Profile of Scale Means for "Physical Activity as a Thrill but Involving Some Risk" as perceived by Male and Female Physical Educators

Note: Male = \_\_\_\_\_  
Female = - - - - -

PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT  
Physical activities which are thought of as possessing  
beauty of certain artistic qualities such as ballet,  
gymnastics or figure skating.

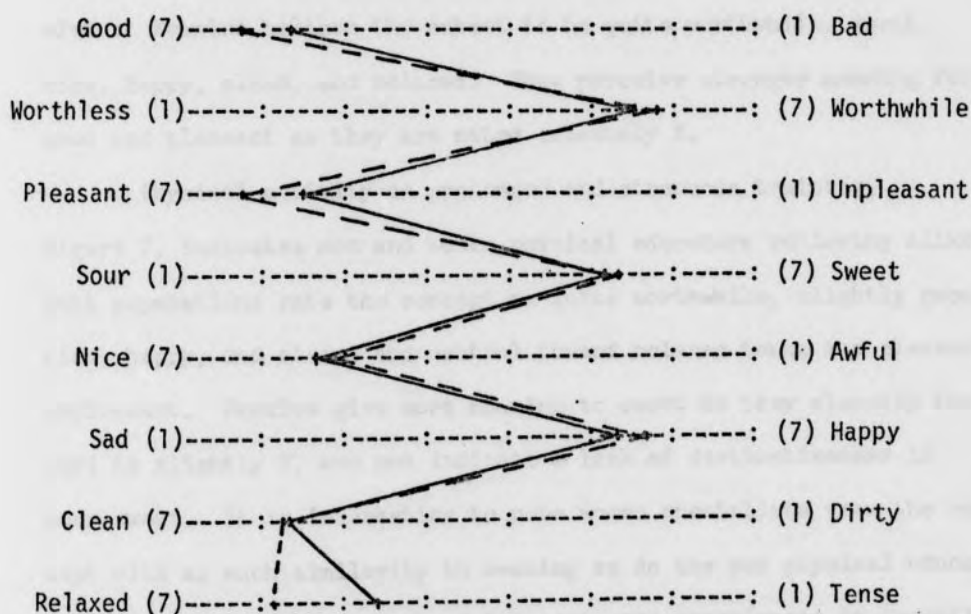


FIGURE 5

Profile of Scale Means for "Physical Activity as  
the Beauty in Human Movement" as Perceived by  
Male and Female Physical Educators

Note: Male = \_\_\_\_\_  
Female = - - - - -



and clean. Lesser meaning is given the comparison relaxed-tense as male physical educators rate the feeling as slightly relaxed.

Figure 6, physical activity for the release of tension, shows women specialists giving more meaning to the eight scales than male physical educators. Men interpret the concept as slightly relaxed and sweet; but quite good, worthwhile, pleasant, nice, happy, and clean. Females believe the subset to be quite worthwhile, sweet, nice, happy, clean, and relaxed. They perceive stronger meaning for good and pleasant as they are rated extremely X.

Physical activity as prolonged and strenuous training, Figure 7, indicates men and women physical educators believing alike. Both populations rate the concept as quite worthwhile, slightly good, nice, happy, and clean; and neutral toward relaxed-tense and pleasant-unpleasant. Females give more meaning to sweet as they classify the word as slightly Y, and men indicate a lack of distinctiveness in sour-sweet. It is interesting to note women specialists view the concept with as much similarity in meaning as do the men physical educators considering the background interests and experiences in competitive sports customarily associated with males.

Of all the concepts comparing male and female physical education specialists, physical activity as games of chance, Figure 8, is perceived as the least meaningful. Males give a neutral score to the bipolar adjectives good-bad, worthwhile-worthless, sour-sweet, nice-awful, and relaxed-tense. Females indicate a neutral meaning for pleasant-unpleasant, sweet-sour, nice-awful, sad-happy, and

PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION  
The participation (or watching others participate) in  
physical activities to get away from the problems of mod-  
ern living; to provide a release from "pent up emotions".

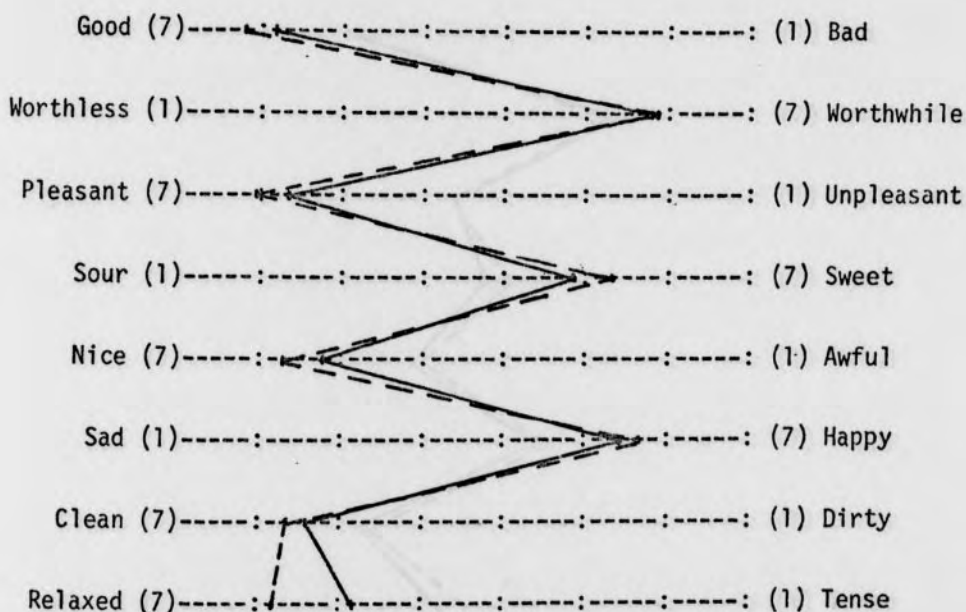


FIGURE 6

Profile of Scale Means for "Physical Activity for  
the Release of Tension" as Perceived by Male  
and Female Physical Educators

Note: Male = \_\_\_\_\_  
Female = - - - - -

**PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING**  
 Physical activities which require long periods of strenuous and often painful training; which involve stiff competition and demands that the individual give up a number of pleasures for a period of time.

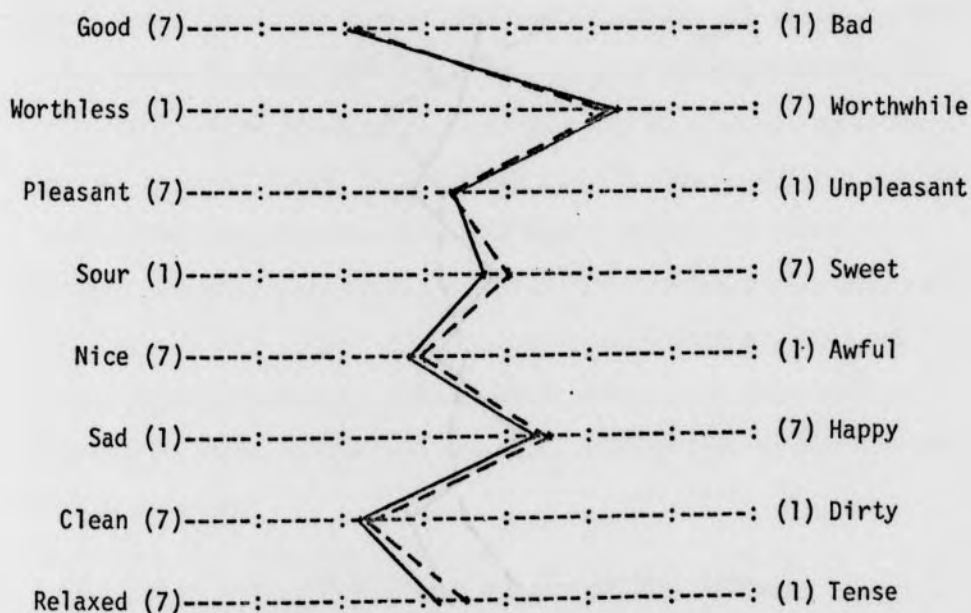


FIGURE 7

Profile of Scale Means for "Physical Activity as Prolonged and Strenuous Training" as Perceived by Male and Female Physical Educators

Note: Male = \_\_\_\_\_  
 Female = - - - - -

### PHYSICAL ACTIVITY AS GAMES OF CHANCE

Games and sports where chance and luck are more important than skill in determining the winner, such as dice or horse racing.

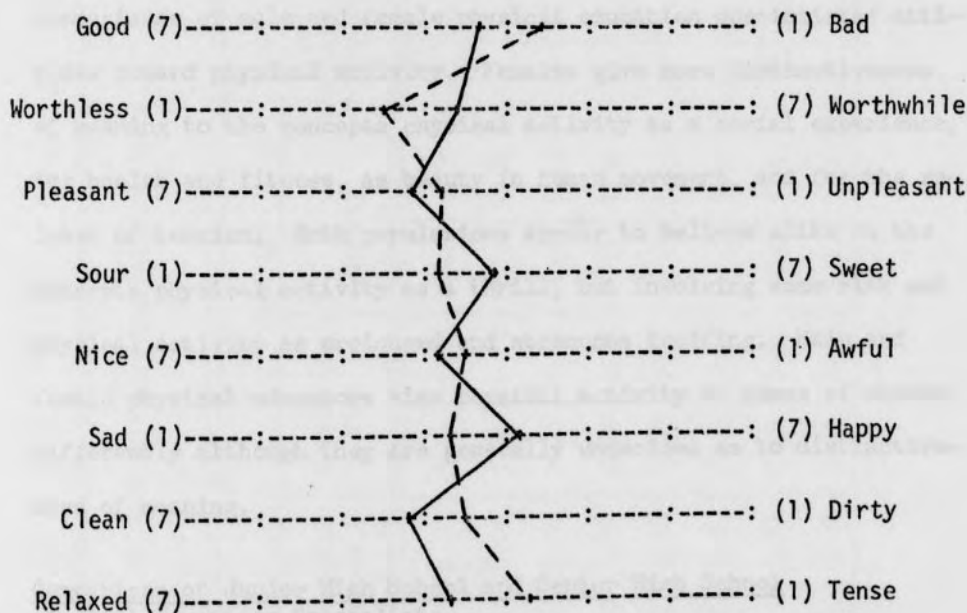


FIGURE 8

Profile of Scale Means for "Physical Activity as Games of Chance" as Perceived by Male and Female Physical Educators

Note: Male = \_\_\_\_\_  
Female = - - - - -

clean-dirty. These scores indicate a lack of distinctiveness to the concept as they are neither X or Y and/or equally X or Y. Yet some scales are given slight meaning. Males view games of chance as slightly pleasant, happy, and clean. Female specialists evaluate the concept as slightly bad, worthless, and tense.

Summary. Figures 2 through 8 give a pictorial view of the comparisons of male and female physical education specialists' attitudes toward physical activity. Females give more distinctiveness of meaning to the concepts physical activity as a social experience, for health and fitness, as beauty in human movement, and for the release of tension. Both populations appear to believe alike on the concepts physical activity as a thrill, but involving some risk and physical activity as prolonged and strenuous training. Male and female physical educators view physical activity as games of chance differently although they are generally undecided as to distinctiveness of meaning.

#### Comparison of Junior High School and Senior High School Physical Education Specialists

The research question. Secondary education encompasses both junior and senior high school levels of instruction. Continuity from one level to the next is usually assumed. A comparison of the attitudes toward physical activity held by the two teaching populations seemed worthy of investigation. The question "Are attitudes of senior high school physical educators and junior high school physical educators comparable?" is answered with Table 2, and Figures 9, 10, 11, 12, 13, 14, and 15.

TABLE 2  
Scale Means for Concepts Rated by Junior High  
and Senior High Physical Educators

Scale	Concept													
	Social Experience		Health and Fitness		Thrill and Risk		Beauty		Release of Tension		Training		Games of Chance	
	Junior	Senior	Junior	Senior	Junior	Senior	Junior	Senior	Junior	Senior	Junior	Senior	Junior	Senior
1	6.53	6.08	6.53	6.27	5.53	5.58	6.45	6.46	6.65	6.38	5.45	5.46	3.50	3.58
2	6.65	6.42	6.35	6.62	5.80	5.58	5.98	6.54	6.35	6.46	5.68	5.88	3.33	3.73
3	6.35	6.08	5.85	5.81	5.18	5.12	6.45	6.19	6.45	6.27	4.13	4.42	4.53	4.53
4	5.93	5.27	5.43	5.19	5.10	4.73	5.88	5.50	5.75	5.31	4.15	4.77	4.05	4.12
5	6.38	5.84	6.00	5.58	5.33	5.19	6.25	6.12	5.95	6.04	4.50	4.77	4.25	4.23
6	6.30	5.88	5.93	5.69	5.28	5.03	6.13	5.92	6.13	6.00	4.85	5.08	4.03	4.46
7	6.53	5.73	6.38	5.31	5.43	5.04	6.50	6.00	6.18	5.85	5.35	5.31	4.53	4.15
8	5.88	5.77	5.65	5.65	4.10	3.65	5.85	5.85	5.90	5.81	4.18	4.19	3.65	4.04

N = Junior 40  
Senior 26



Analysis and interpretation. Referring to Figure 9, physical activity as a social experience has stronger meaning for junior high school specialists than for senior high school physical education personnel. Junior high physical educators regard the concept as extremely good, worthwhile, and clean; quite pleasant, sweet, nice, happy, and relaxed. Senior high physical educators agree with junior high personnel with ratings of relaxed, happy, nice, and pleasant as being quite X or Y. They also evaluate good, worthwhile, and clean as quite X or Y. The least meaningful adjective is sweet; its mean is interpretable as "slightly."

Physical activity for health and fitness, Figure 10, is perceived with similar meaning for the two populations. Both groups give "quite" means for pleasant, nice, happy, and relaxed; and "slightly" sweet. Junior high personnel view the concept as extremely good and worthwhile; and quite clean. Senior high physical education specialists believe activity for health and fitness to be quite good and worthwhile, and slightly clean.

The subdomain physical activity as a thrill but involving some risk, see Figure 11, indicates junior high and senior high populations giving similar meaning in all scales. All physical educators responded to the concept as quite good and worthwhile, slightly pleasant, sweet, nice, happy, and clean; and undecided as to the real meaning of relaxed-tense in relation to the concept.

Figure 12, representing physical activity as the beauty in human movement, also reveals likeness in meaning for the different

### PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE

Sports, games and other forms of physical recreation whose primary purpose is to provide opportunities for social participation; that is, to meet new people and continue personal friendships.

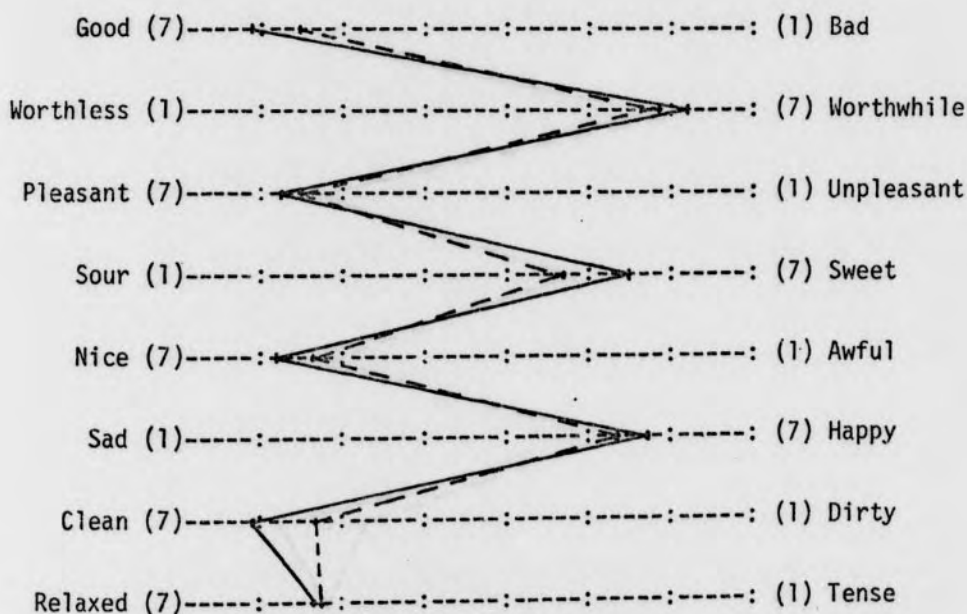


FIGURE 9

Profile of Scale Means for "Physical Activity as a Social Experience" as Perceived by Junior and Senior High School Physical Educators

Note: Junior High = \_\_\_\_\_  
 Senior High = - - - - -

PHYSICAL ACTIVITY FOR HEALTH AND FITNESS  
 Participating in physical activity primarily  
 to improve one's health and physical fitness.

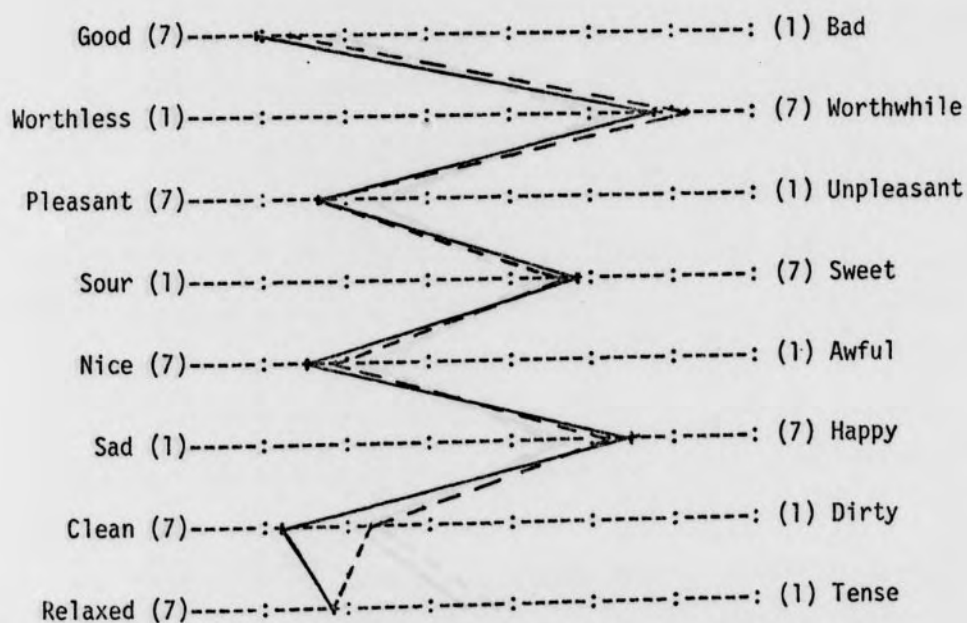


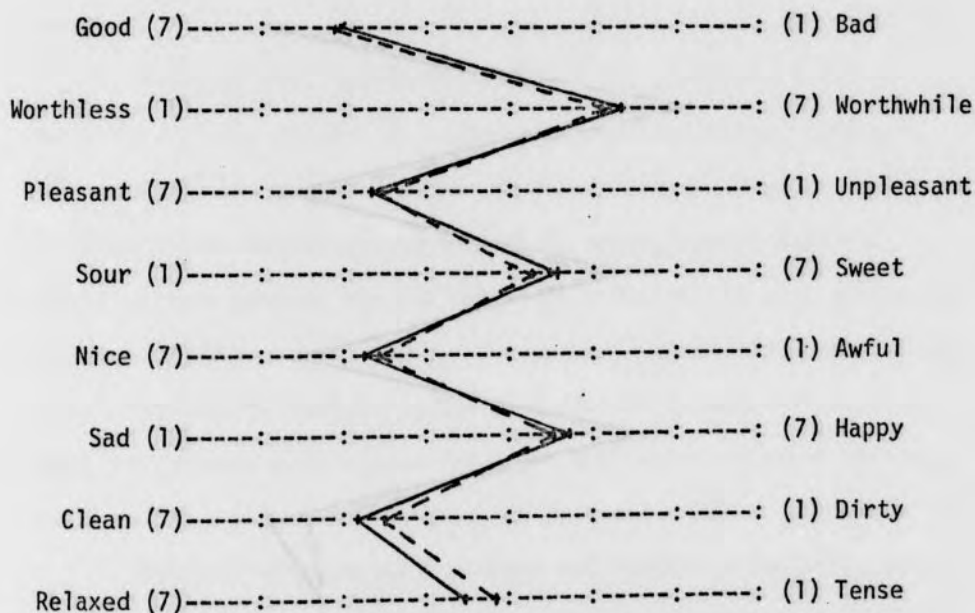
FIGURE 10

Profile of Scale Means for "Physical Activity for  
 Health and Fitness" as Perceived by Junior  
 and Senior High School Physical Educators

Note: Junior High = \_\_\_\_\_  
 Senior High = - - - - -

**PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK**

Physical activities providing, at some risk to the participant, thrills and excitement through speed, acceleration, sudden change of direction, and exposure to dangerous situations.



**FIGURE 11**

Profile of Scale Means for "Physical Activity  
as a Thrill but Involving Some Risk" as  
Perceived by Junior and Senior High  
School Physical Educators

Note: Junior High = \_\_\_\_\_  
Senior High = -----

PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT  
Physical activities which are thought of as possessing  
beauty of certain artistic qualities such as ballet,  
gymnastics or figure skating.

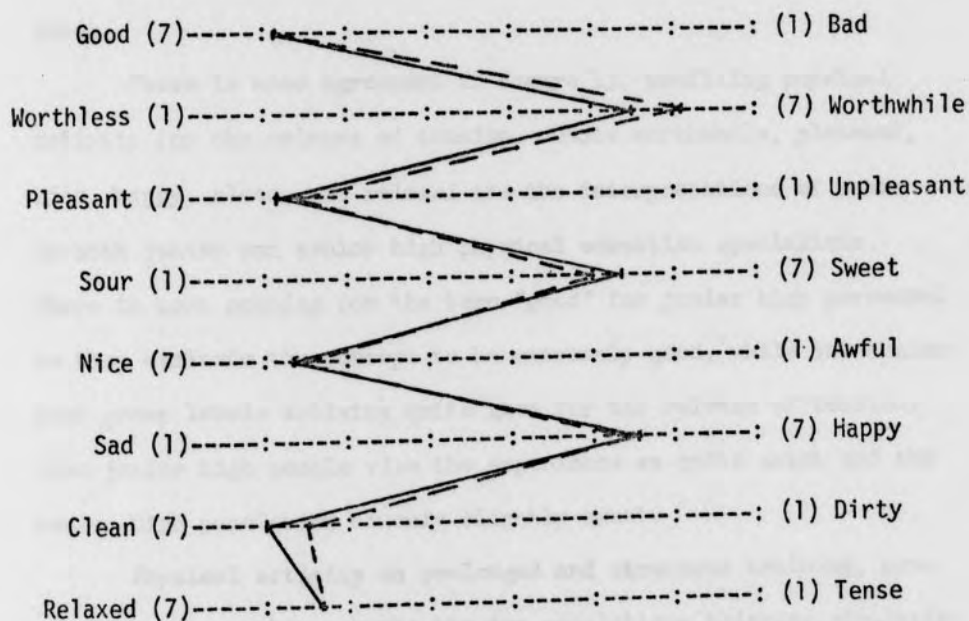


FIGURE 12

Profile of Scale Means for "Physical Activity as  
the Beauty in Human Movement" as Perceived  
by Junior and Senior High School  
Physical Educators

Note: Junior High = \_\_\_\_\_  
Senior High = \_\_\_\_\_

populations. Both levels of secondary physical education teachers picture beauty in human movement to be quite good, pleasant, nice, happy, clean, and relaxed. Junior high specialists regard beauty as extremely worthwhile; senior high personnel believe beauty to be quite worthwhile. Senior high people view beauty as quite sweet; junior high personnel regard beauty in human movement as slightly sweet.

There is also agreement in Figure 13, profiling physical activity for the release of tension. Quite worthwhile, pleasant, nice, happy, clean, and relaxed are the interpretations of means by both junior and senior high physical education specialists. There is more meaning for the term "good" for junior high personnel as they evaluate the concept to be extremely good, while the senior high group labels activity quite good for the release of tension. Also junior high people view the experience as quite sweet and the senior high population as only slightly sweet.

Physical activity as prolonged and strenuous training, presented in Figure 14, reveals the two populations thinking similarly except on the sour-sweet and nice-awful scales. Junior high physical educators assign little meaning, as they are neutral in their value of both these scales. Senior high specialists perceive the meanings to be slightly sweet and slightly nice. Otherwise, the groups agree in defining the concept as slightly good, happy, and clean; quite worthwhile; and neutral to pleasant-unpleasant, and relaxed-tense.



# PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION

The participation (or watching others participate) in physical activities to get away from the problems of modern living; to provide a release from "pent up emotions".

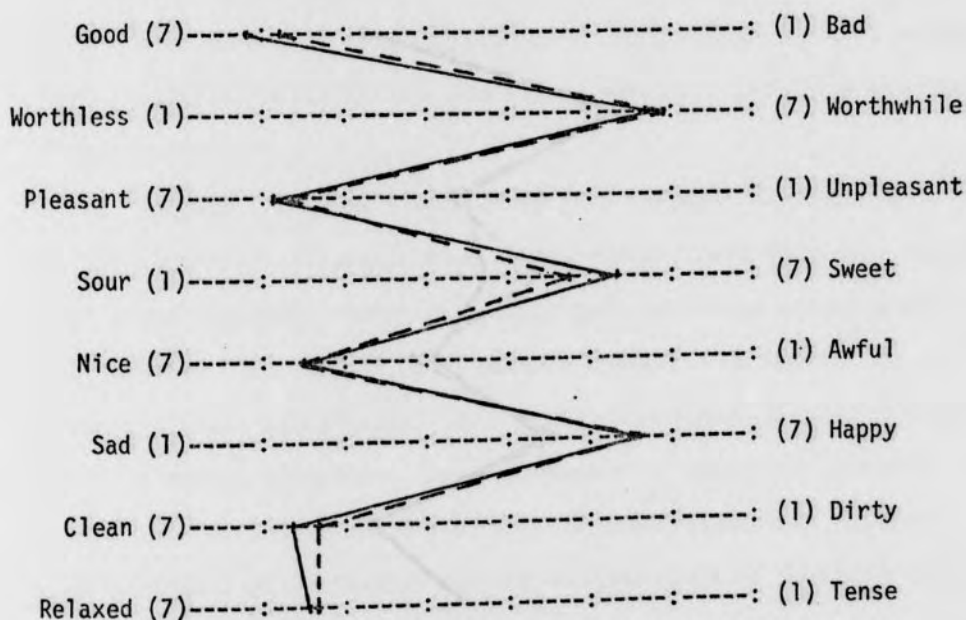


FIGURE 13

Profile of Scale Means for "Physical Activity for the Release of Tension" as Perceived by Junior and Senior High School Physical Educators

Note: Junior High = \_\_\_\_\_  
 Senior High = - - - - -

**PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING**  
 Physical activities which require long periods of strenuous and often painful training; which involve stiff competition and demands that the individual give up a number of pleasures for a period of time.

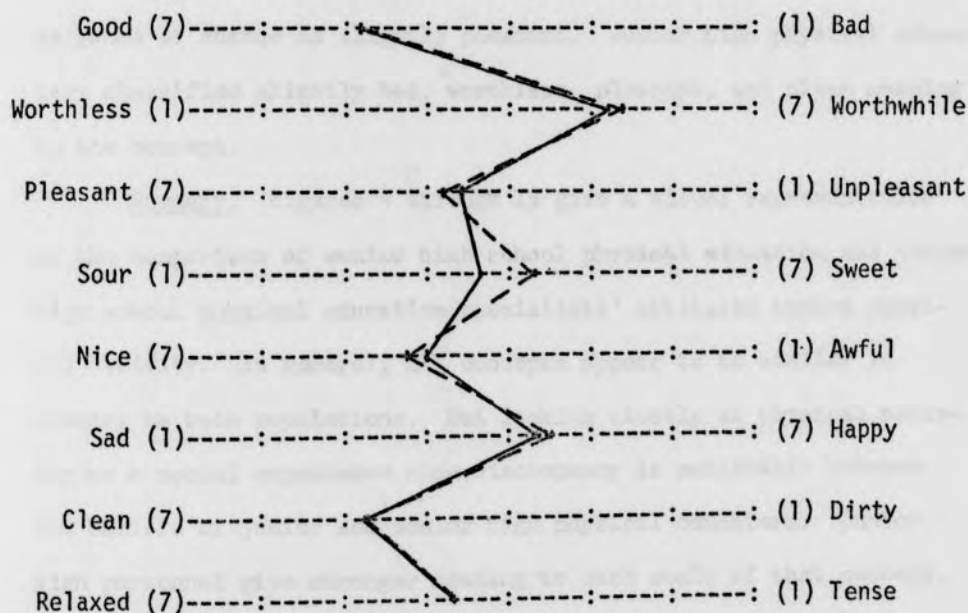


FIGURE 14

Profile of Scale Means for "Physical Activity  
 as Prolonged and Strenuous Training" as  
 Perceived by Junior and Senior High  
 School Physical Educators

Note: Junior High \_\_\_\_\_  
 Senior High - - - - -

The true meaning of physical activity as games of chance, Figure 15, is questionable because of the dominance of the neutral means for both populations. Relaxed-tense, sad-happy, nice-awful, and sour-sweet received neither X or Y and/or equally X or Y scores. Senior high specialists are also undecided by their meaning of good-bad, worthless-worthwhile, and clean-dirty; they do regard activity as games of chance as slightly pleasant. Junior high physical educators classified slightly bad, worthless, pleasant, and clean meaning to the concept.

Summary. Figures 9 through 15 give a visual representation of the comparison of senior high school physical education and junior high school physical education specialists' attitudes toward physical activity. In general, all concepts appear to be similar in meaning to both populations. But looking closely at physical activity as a social experience some discrepancy is noticeable between the beliefs of junior and senior high physical educators. Junior high personnel give stronger meaning to each scale of that concept.

#### Comparison of Physical Education Specialists with Varying Years of Teaching Experience

The research question. Further comparison of attitude toward physical activity was undertaken to answer the question, "Are attitudes of physical educators with varying years of teaching experience comparable?". Descriptive data are presented in Table 3; Profiles of the mean scores are seen in Figures 16, 17, 18, 19, 20, 21, and 22.

PHYSICAL ACTIVITY AS GAMES OF CHANCE

Games and sports where chance and luck are more important than skill in determining the winner, such as dice or horse racing.

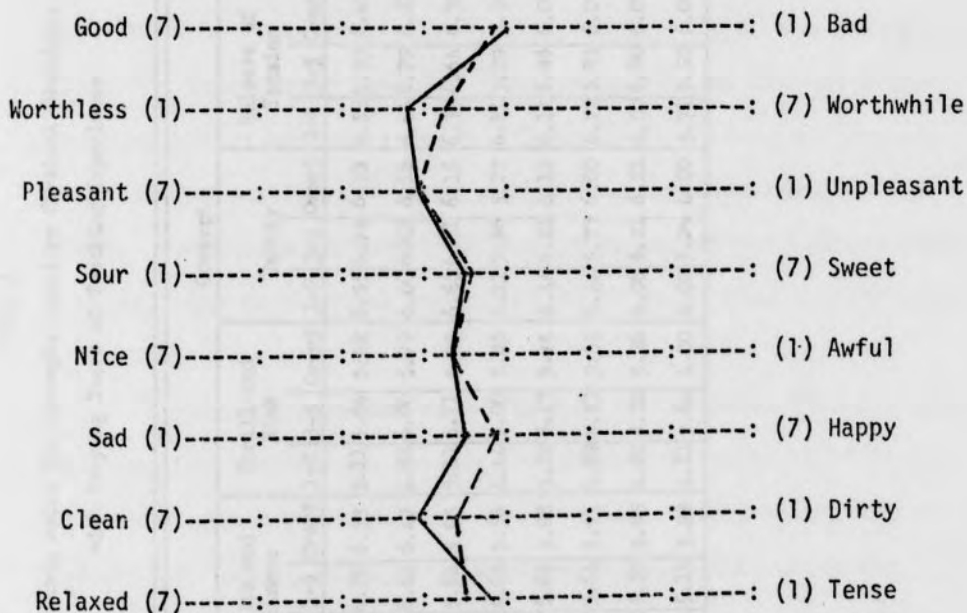


FIGURE 15

Profile of Scale Means for "Physical Activity as Games of Chance" as Perceived by Junior and Senior High School Physical Educators

Note: Junior High = \_\_\_\_\_  
 Senior High = - - - - -

TABLE 3  
Scale Means for Concepts Rated by Physical Educators  
with Varying Years of Teaching Experience

Scale	Concept																				
	Social Experience			Health and Fitness			Thrill and Risk			Beauty			Release of Tension			Training			Games of Chance		
	1-2	3-5	Over 5	1-2	3-5	Over 5	1-2	3-5	Over 5	1-2	3-5	Over 5	1-2	3-5	Over 5	1-2	3-5	Over 5	1-2	3-5	Over 5
1	6.66	6.64	6.19	6.44	6.71	6.33	5.11	5.86	5.42	6.55	6.79	6.33	6.55	6.93	6.42	6.00	4.86	5.53	4.22	3.64	3.35
2	6.77	6.64	6.16	6.44	6.43	6.47	4.88	6.00	5.79	6.00	6.43	6.16	6.66	6.79	6.21	6.00	5.79	5.70	3.77	3.64	3.37
3	6.44	6.50	6.12	5.55	5.64	5.95	5.11	5.71	5.09	6.66	6.71	6.16	6.33	6.64	6.30	4.44	4.29	4.19	4.77	4.36	4.53
4	5.77	5.43	5.65	5.33	4.64	5.56	4.44	5.00	5.05	6.11	5.36	5.77	6.11	5.29	5.56	4.77	3.79	4.51	4.55	4.07	3.98
5	6.33	6.07	6.00	5.88	5.64	5.88	5.22	5.43	5.14	6.44	6.21	6.12	6.11	5.86	6.00	5.00	4.36	4.60	4.66	4.14	4.19
6	6.33	6.29	6.04	5.77	5.64	5.91	4.88	4.93	5.35	6.44	5.93	6.00	6.22	5.93	6.09	5.11	4.64	5.00	4.33	3.86	4.28
7	6.33	5.79	6.19	6.55	5.57	5.95	4.88	5.21	5.26	6.00	6.21	6.21	6.00	6.00	6.07	5.88	4.71	5.42	5.22	4.29	4.23
8	6.22	5.93	5.81	5.33	5.14	5.88	4.11	3.64	4.00	6.00	5.29	6.00	5.77	5.50	6.00	4.55	3.57	4.30	4.44	3.79	3.67

N = 1-2      9  
               3-5      14  
               Over 5   43

Analysis and interpretation. The concept physical activity as a social experience perceived by specialists in physical education with varying years of teaching reveals similar meaning of all scale items. As seen in Figure 16, the populations 1-2 years of teaching experience, 3-5 years of teaching experience, and over 5 years of teaching experience give meaning of activity as a social experience to be quite pleasant, nice, happy, clean, and relaxed. First and second year teachers view the concept as extremely good and worthwhile; and quite sweet. Three to five year teachers consider the concept as extremely good and worthwhile; and slightly sweet. Teachers with more than five years experience believe physical activity as a social experience to be quite good, worthwhile, and sweet.

Figure 17 shows the relationships of the three teaching populations for the concept physical activity for health and fitness. First and second year teachers perceive the concept to be slightly relaxed and sweet; quite good, worthwhile, pleasant, nice, and happy; and extremely clean. Third to fifth year teachers consider this concept as extremely good; quite worthwhile, pleasant, nice, happy, and clean; and slightly sweet and relaxed. Teachers with more than five years of experience reveal activity for health and fitness to be quite good, worthwhile, pleasant, sweet, nice, happy, clean, and relaxed. The scales sour-sweet, clean-dirty, and relaxed-tense show some differences in strength of meaning compared to the other bipolar adjectives.



### PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE

Sports, games and other forms of physical recreation whose primary purpose is to provide opportunities for social participation; that is, to meet new people and continue personal friendships.

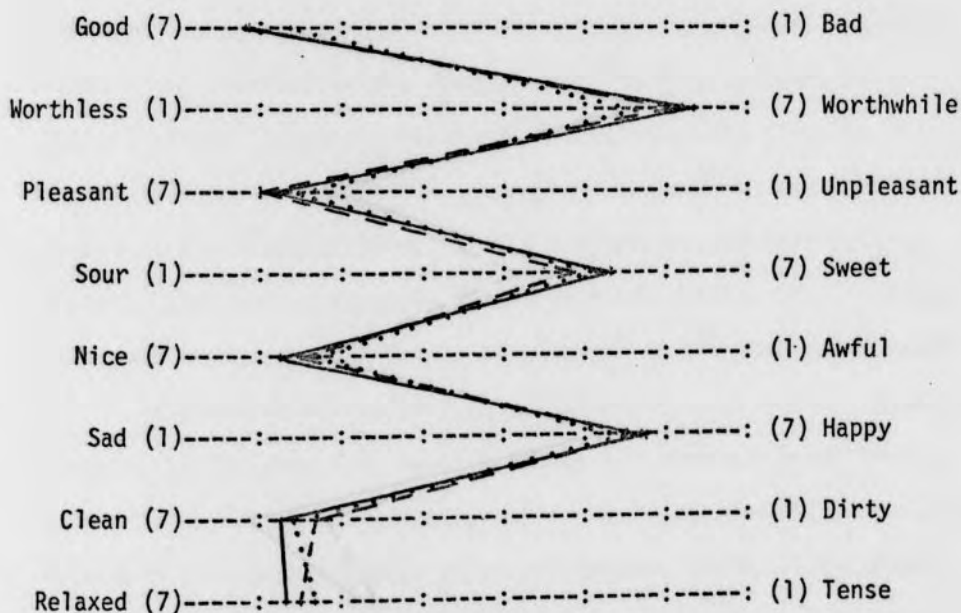


FIGURE 16

Profile of Scale Means for "Physical Activity as a Social Experience" as Perceived by Physical Educators with Varying Years of Teaching Experience

Note: 1-2 Years = \_\_\_\_\_  
 3-5 Years = - - - - -  
 Over 5 Years = . . . . .

PHYSICAL ACTIVITY FOR HEALTH AND FITNESS  
 Participating in physical activity primarily  
 to improve one's health and physical fitness.

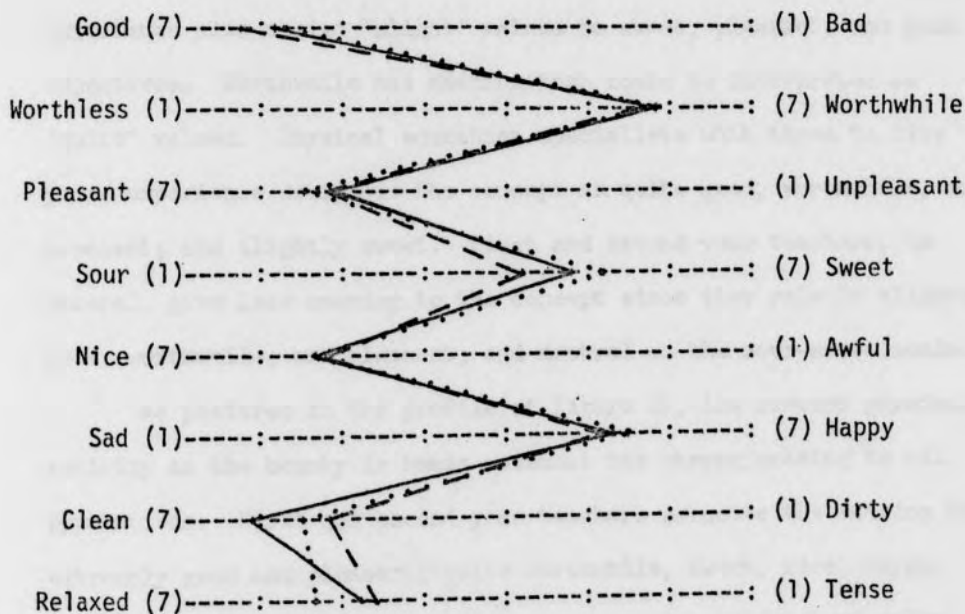


FIGURE 17

Profile of Scale Means for "Physical Activity for  
 Health and Fitness" as Perceived by  
 Physical Educators with Varying  
 Years of Teaching Experience

Note: 1-2 Years = \_\_\_\_\_  
 3-5 Years = - - - - -  
 Over 5 Years = . . . . .

Physical activity as a thrill but involving some risk, as seen in Figure 18, takes on lesser meaning for the populations. This interpretation is based on the closeness of the means to the center of semantic space, or neutrality. All populations evaluated the relaxed-tense scale as neutral, and assigned slight meaning to the clean, happy, and nice poles of the scales. Teachers with over five years experience also assign "slight" values to sweet, pleasant, and good adjectives. Worthwhile has meaning that could be interpreted as "quite" valued. Physical education specialists with three to five years experience designate the concept as quite good, worthwhile, and pleasant; and slightly sweet. First and second year teachers, in general, give less meaning to the concept since they rate it slightly good, worthwhile, and pleasant; and neutral on the sour-sweet scale.

As pictured in the profile of Figure 19, the concept physical activity as the beauty in human movement has strong meaning to all populations. First and second year teachers perceive the meaning as extremely good and pleasant; quite worthwhile, sweet, nice, happy, clean, and relaxed. Three to five year experienced teachers value the concept as extremely good and pleasant; quite worthwhile, nice, happy, and clean; and slightly sweet and relaxed. Teachers with more than five years of experience indicate their meaning as quite good, pleasant, sweet, worthwhile, nice, happy, clean, and relaxed.

The concept physical activity for the release of tension, Figure 20, also indicates strong and similar meaning for all three groups. The only population rating a scale as neutral, or slightly X or Y, was the three to five years group they designated the concept

**PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK**

Physical activities providing, at some risk to the participant, thrills and excitement through speed, acceleration, sudden change of direction, and exposure to dangerous situations.

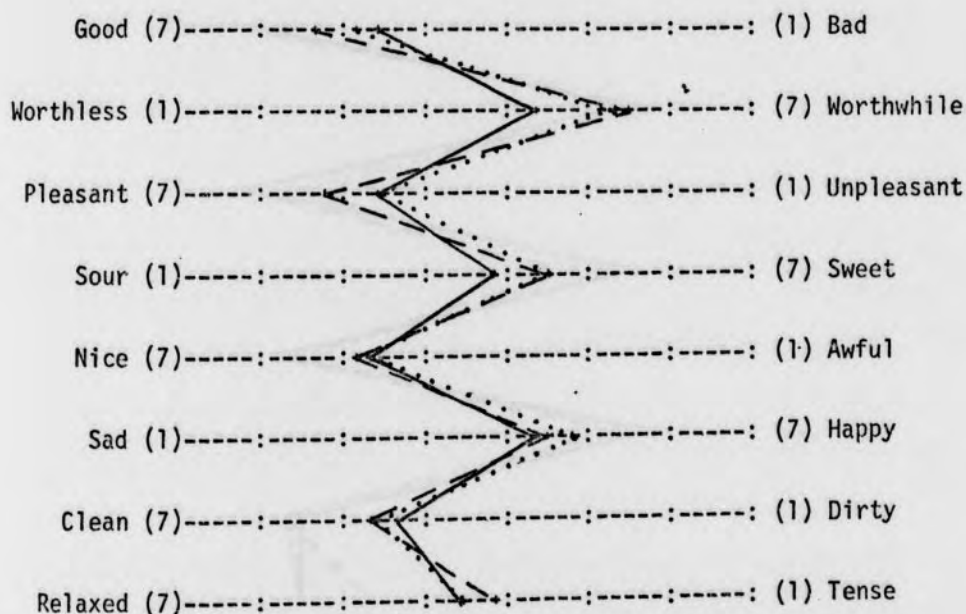


FIGURE 18

Profile of Scale Means for "Physical Activity as a Thrill but Involving Some Risk" as Perceived by Physical Educators with Varying Years of Teaching Experience

Note: 1-2 Years = \_\_\_\_\_  
 3-5 Years = - - - - -  
 Over 5 Years = . . . . .

PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT  
Physical activities which are thought of as possessing  
beauty of certain artistic qualities such as ballet,  
gymnastics or figure skating.

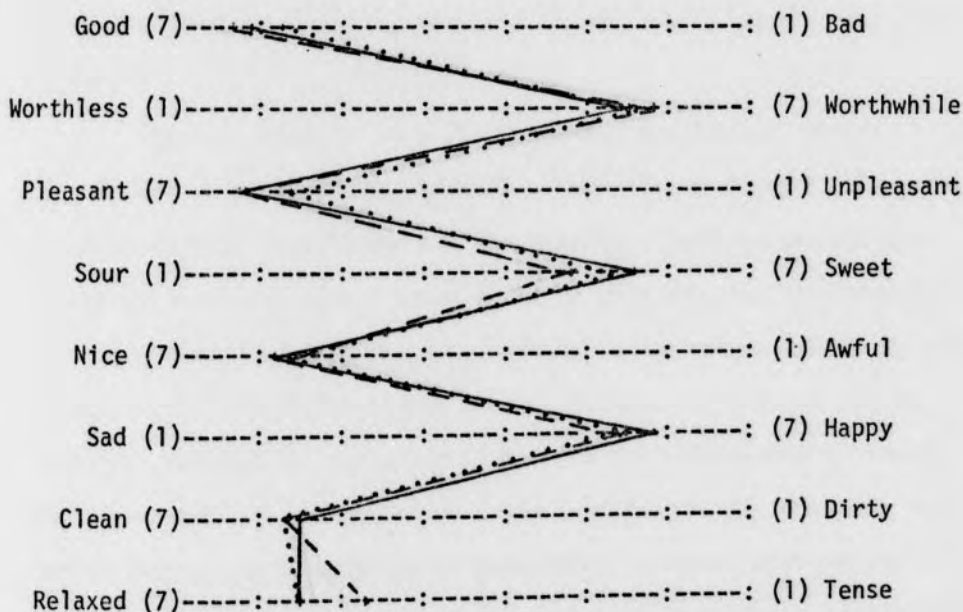


FIGURE 19

Profile of Scale Means for "Physical Activity as  
the Beauty in Human Movement" as Perceived  
by Physical Educators with Varying  
Years of Teaching Experience

Note: 1-2 Years = \_\_\_\_\_  
3-5 Years = - - - - -  
Over 5 Years = . . . . .

# PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION

The participation (or watching others participate) in physical activities to get away from the problems of modern living; to provide a release from "pent up emotions".

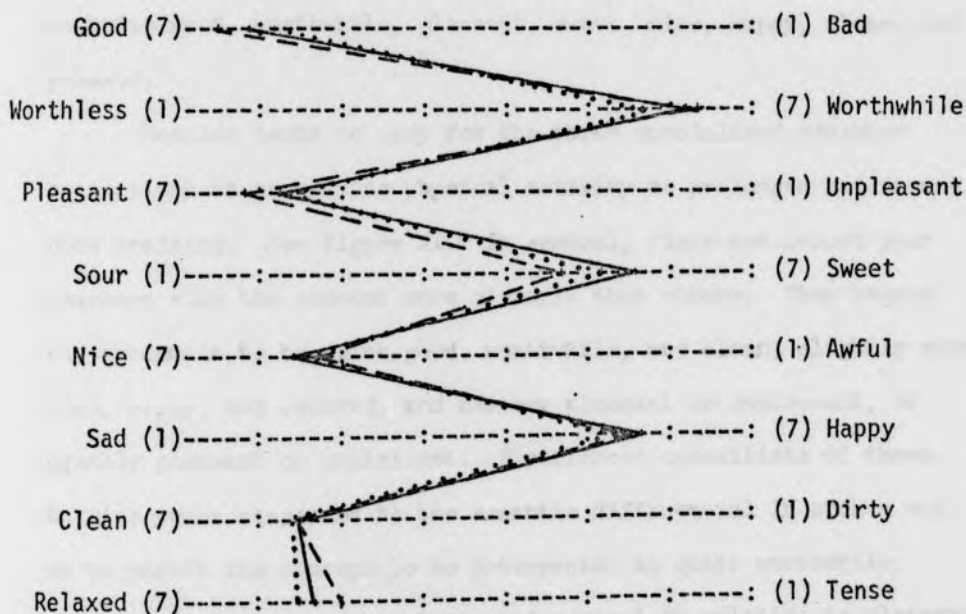


FIGURE 20

Profile of Scale Means for "Physical Activity for the Release of Tension" as Perceived by Physical Educators with Varying Years of Teaching Experience

Note: 1-2 Years = \_\_\_\_\_  
 3-5 Years = - - - - -  
 Over 5 Years = . . . . .



to be slightly relaxed and sweet. They also assign the meaning of "quite" to the adjectives clean, happy, and nice; and "extremely" to worthwhile, good, and pleasant. Specialists with less experience view activity for the release of tension as extremely good and worthwhile; quite pleasant, sweet, nice, happy, clean, and relaxed. Those teachers with more than five years experience designate the concept as quite good, worthwhile, pleasant, sweet, nice, happy, clean, and relaxed.

Meaning tends to vary for the three specialized educator populations in perceiving physical activity as prolonged and strenuous training. See Figure 21. In general, first and second year teachers view the concept more strongly than others. They regard the subdomain to be quite good, worthwhile, and clean; slightly sweet, nice, happy, and relaxed; and neither pleasant or unpleasant, or equally pleasant or unpleasant. Experienced specialists of three to five years responded to the semantic differential in such a way as to permit the concept to be interpreted as quite worthwhile; slightly good, happy, and clean; and neutral in relation to pleasant-unpleasant, sour-sweet, nice-awful, and relaxed-tense. Teachers having more than five years of experience assign neutral value to the relaxed-tense and pleasant-unpleasant scales. Slightly clean, happy, nice, and sweet; and quite worthwhile and good are other meanings indicated.

The final concept, Figure 22, is physical activity as games of chance. Again many neutral scale means were obtained indicating lack of true meaning to the rating populations. Specialists of over

**PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING**  
 Physical activities which require long periods of strenuous and often painful training; which involve stiff competition and demands that the individual give up a number of pleasures for a period of time.

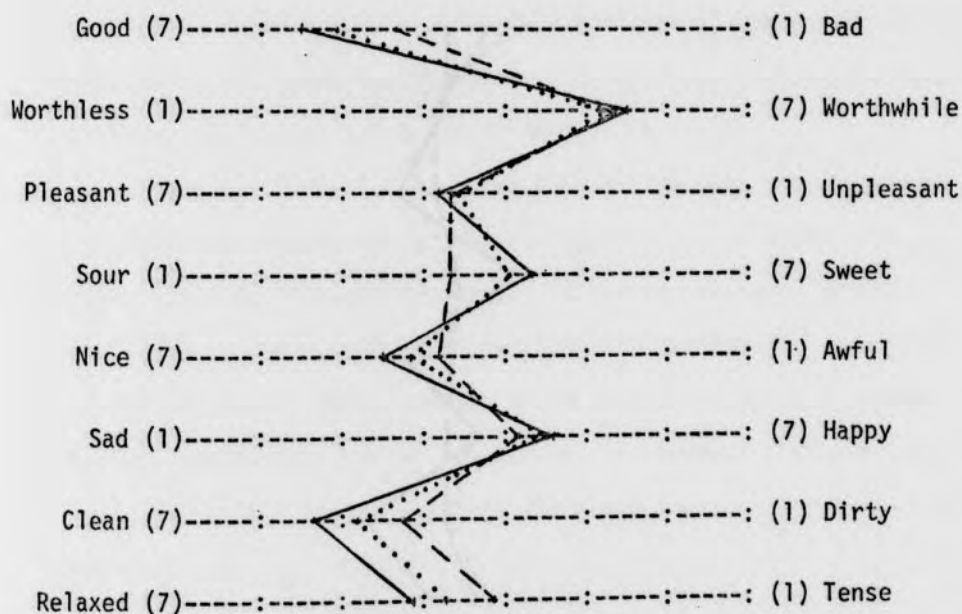


FIGURE 21

Profile of Scale Means for "Physical Activity as Prolonged and Strenuous Training" as Perceived by Physical Educators with Varying Years of Teaching Experience

Note: 1-2 Years = \_\_\_\_\_  
 3-5 Years = - - - - -  
 Over 5 Years = . . . . .

PHYSICAL ACTIVITY AS GAMES OF CHANCE  
 Games and sports where chance and luck are more  
important than skill in determining the winner,  
 such as dice or horse racing.

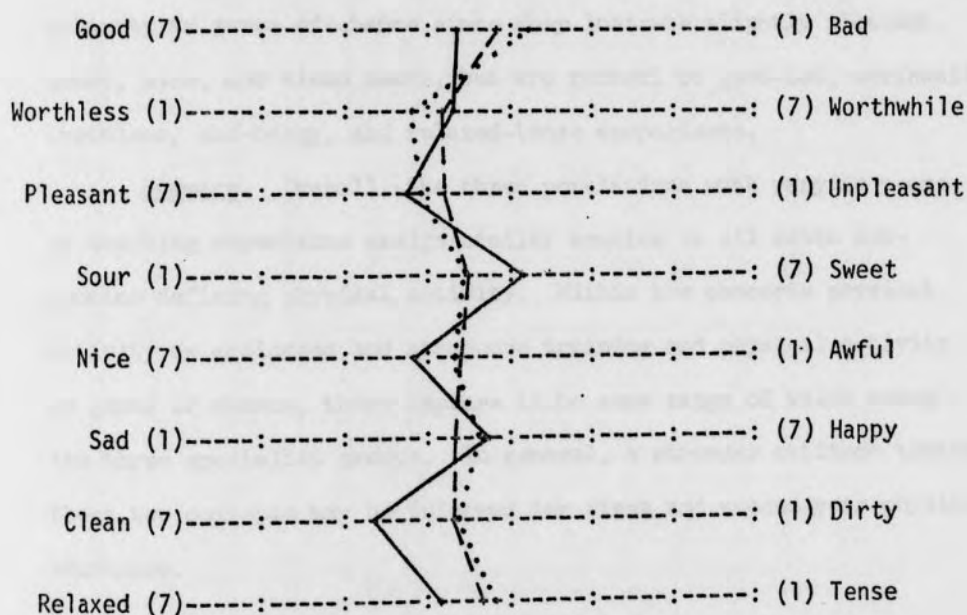


FIGURE 22

Profile of Scale Means for "Physical Activity  
 as Games of Chance" as Perceived by  
 Physical Educators with Varying  
 Years of Teaching Experience

Note: 1-2 Years = \_\_\_\_\_  
 3-5 Years = - - - - -  
 Over 5 Years = . . . .

five years teaching experience designate relaxed-tense, clean-dirty, sad-happy, nice-awful, and sour-sweet as neutral in meaning. They do perceive the concept as being slightly pleasant, but slightly worthless and bad also. Three to five year teachers give no definite meaning at all as each scale is neutral. As pictured, the first and second year specialists have somewhat stronger value of activity as games of chance since they indicate slightly pleasant, sweet, nice, and clean means; but are neutral to good-bad, worthwhile-worthless, sad-happy, and relaxed-tense comparisons.

Summary. Overall, the three populations with varying years of teaching experience assign similar meaning to all seven sub-domains defining physical activity. Within the concepts physical activity as prolonged and strenuous training and physical activity as games of chance, there appears to be some range of value among the three specialist groups. In general, a stronger attitude toward these two concepts may be inferred for first and second year physical educators.

#### Comparison of Students and Physical Education Specialists

The research question. It would be of benefit to understand how students perceive physical activity and how specialists of physical education perceive that same domain. From the scale means of each concept, see Table 4, profiles were drawn to compare these two populations. See Figures 23, 24, 25, 26, 27, 28, and 29. The question "Are attitudes of physical educators and students comparable?" is answered in the following pages.

TABLE 4  
Scale Means for Concepts Rated by Students  
and Physical Educators

Scale	Concept													
	Social Experience		Health and Fitness		Thrill and Risk		Beauty		Release of Tension		Training		Games of Chance	
	Student	PhyEd	Student	PhyEd	Student	PhyEd	Student	PhyEd	Student	PhyEd	Student	PhyEd	Student	PhyEd
1	6.05	6.35	6.36	6.42	5.11	5.56	5.77	6.45	5.93	6.55	5.77	5.45	5.93	3.53
2	6.01	6.56	6.21	6.45	5.12	5.71	5.63	6.20	5.68	6.39	5.63	5.76	5.68	3.48
3	5.66	6.24	5.56	5.83	4.66	5.23	5.62	6.35	5.49	6.38	5.62	4.24	5.49	4.53
4	4.87	5.66	4.91	5.33	4.36	4.95	5.09	5.73	4.36	5.58	5.09	4.39	4.85	4.07
5	5.65	6.16	5.53	5.83	4.58	5.27	5.61	6.20	4.58	5.98	5.61	4.60	5.42	4.24
6	5.64	6.13	5.43	5.83	4.74	5.19	5.43	5.94	4.74	6.08	5.43	4.94	5.19	4.19
7	5.29	6.12	5.48	5.95	4.64	5.27	5.75	6.30	4.64	6.05	5.75	5.33	5.29	4.38
8	4.99	5.83	5.05	5.65	3.58	3.93	5.26	5.85	3.58	5.86	5.26	4.18	5.17	3.80

N = Student 515  
Phy Ed 66

Analysis and interpretation. Physical activity as a social experience, Figure 23, has stronger meaning for physical education specialists than for students. Physical educators perceive the concept as extremely worthwhile; quite good, pleasant, sweet, nice, happy, clean, and relaxed. Students' meanings are quite good, worthwhile, pleasant, nice, and happy; and slightly sweet, clean, and relaxed.

Students and physical educators consider physical activity for health and fitness, Figure 24, with similar meaning. Both populations perceive the concept to be quite good, worthwhile, pleasant, and nice; and slightly sweet. Physical education specialists also rate the concept as quite clean, happy, and relaxed; while the students believe the meaning to be slightly happy, clean, and relaxed.

Physical educators assign greater meaning to physical activity as a thrill but involving some risk, Figure 25, than do students. The students evaluated the concept as slightly good, worthwhile, pleasant, nice, happy, and clean; with neutral readings of the relaxed-tense and sour-sweet scales. Specialists of physical education regard the subdomain as quite good and worthwhile; slightly pleasant, sweet, nice, happy, and clean; and undecided as to relaxed-tense meaning.

Figure 26, is a profile analysis of physical activity as beauty in human movement as plotted from the responses of students and physical education specialists. Physical educators consider the concept as quite good, worthwhile, pleasant, sweet, nice, happy, clean, and



### PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE

Sports, games and other forms of physical recreation whose primary purpose is to provide opportunities for social participation; that is, to meet new people and continue personal friendships.

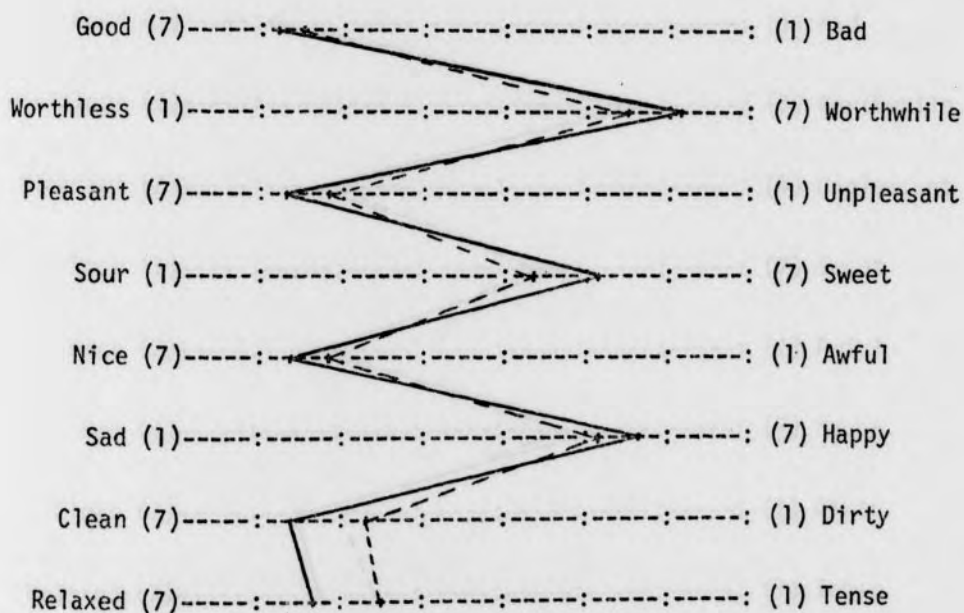


FIGURE 23

Profile of Scale Means for "Physical Activity  
as a Social Experience" as Perceived by  
Students and Physical Educators

Note: Students = -----  
Physical Educators = - - - - -

PHYSICAL ACTIVITY FOR HEALTH AND FITNESS  
 Participating in physical activity primarily  
 to improve one's health and physical fitness.

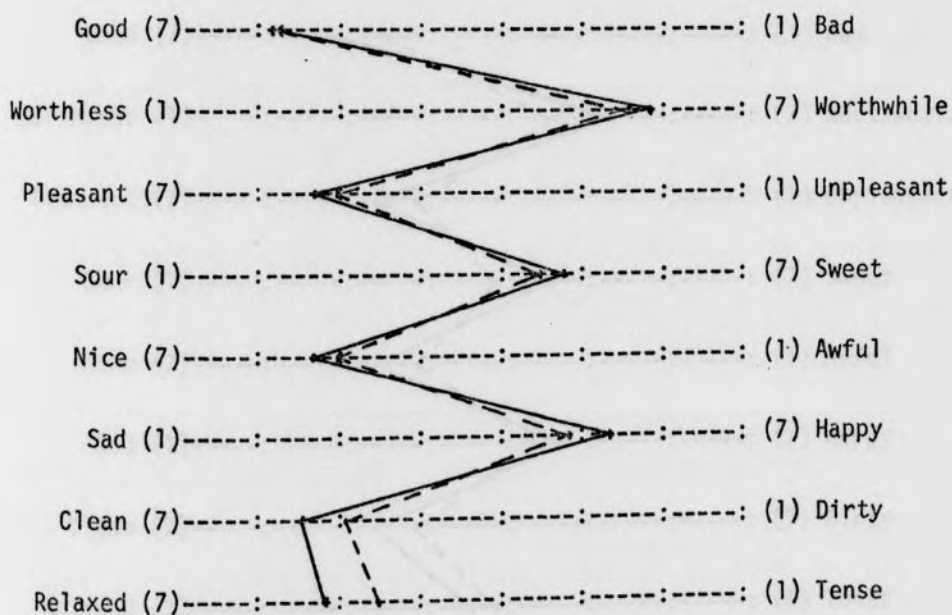


FIGURE 24

Profile of Scale Means for "Physical Activity for  
 Health and Fitness" as Perceived by Students  
 and Physical Educators

Note: Students = -----  
 Physical Educators = \_\_\_\_\_

**PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK**

Physical activities providing, at some risk to the participant, thrills and excitement through speed, acceleration, sudden change of direction, and exposure to dangerous situations.

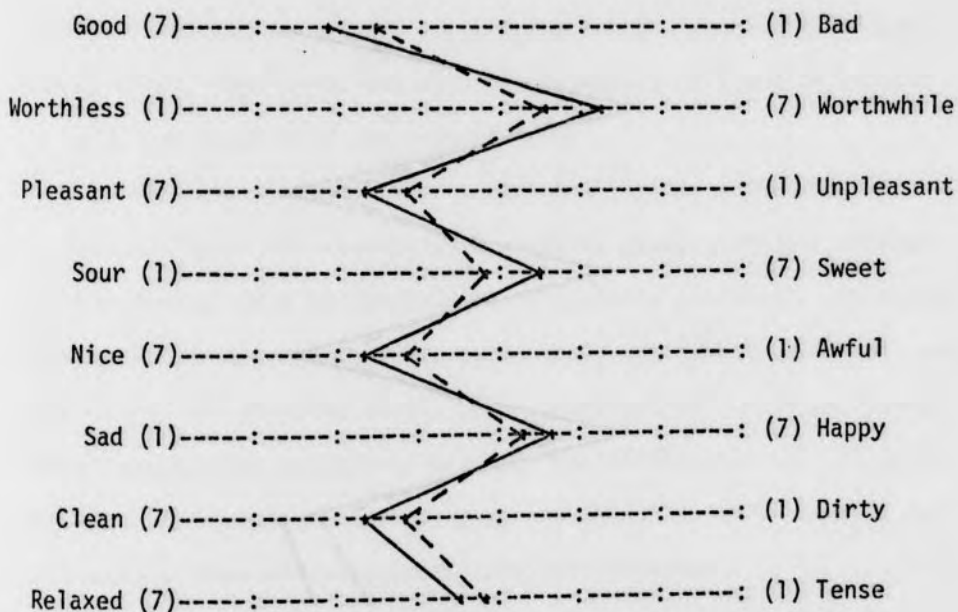


FIGURE 25

Profile of Scale Means for "Physical Activity as a Thrill but Involving Some Risk" as Perceived by Students and Physical Educators

Note: Students = -----  
Physical Educators = -----

PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT  
Physical activities which are thought of as possessing  
beauty of certain artistic qualities such as ballet,  
gymnastics or figure skating.

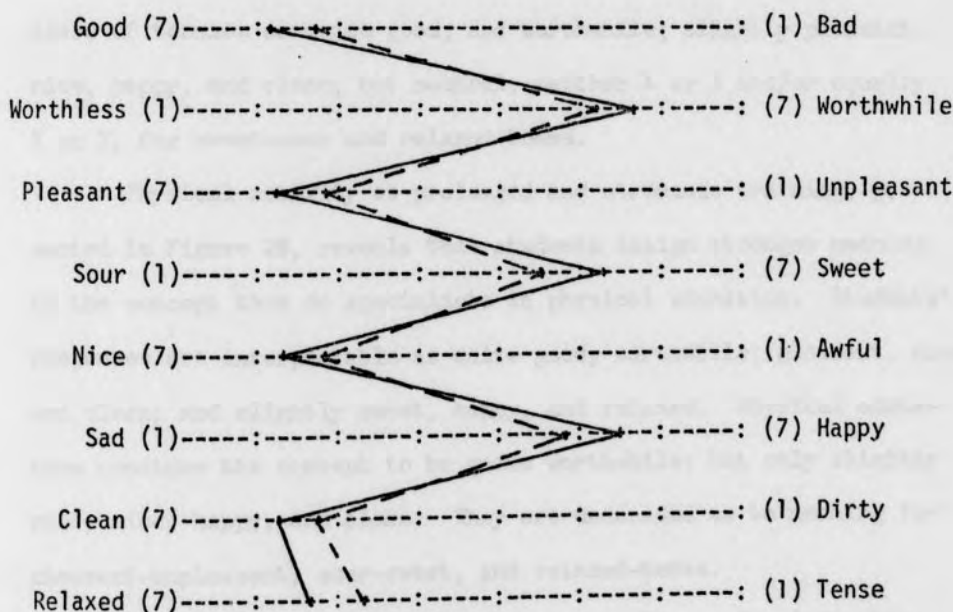


FIGURE 26

Profile of Scale Means for "Physical Activity as  
the Beauty in Human Movement" as Perceived by  
Students and Physical Educators

Note: Students = -----  
Physical Educators = - - - - -

slightly sweet, happy, and relaxed.

There appears to be a clear difference of meaning designated by the groups to physical activity for the release of tension, seen in Figure 27. Physical education specialists perceive the concept as extremely good; and quite worthwhile, pleasant, sweet, nice, happy, clean, and relaxed. Students respond to activity for the release of tension as quite good, and worthwhile; slightly pleasant, nice, happy, and clean; but neutral, neither X or Y and/or equally X or Y, for sweet-sour and relaxed-tense.

Physical activity as prolonged and strenuous training, presented in Figure 28, reveals that students assign stronger meaning to the concept than do specialists in physical education. Students' responses are interpretable as quite good, worthwhile, pleasant, nice, and clean; and slightly sweet, happy, and relaxed. Physical educators consider the concept to be quite worthwhile; but only slightly good, nice, happy, and clean. They are undecided as to meaning for pleasant-unpleasant, sour-sweet, and relaxed-tense.

Physical activity as games of chance, Figure 29, indicates lack of distinctiveness of meaning for specialists in physical education. These subjects indicate a neutral commitment to the good-bad, sour-sweet, nice-awful, sad-happy, clean-dirty, and relaxed-tense scales. Slightly worthless and pleasant were more distinctly perceived meanings for the concept. The students regard activity as games of chance to be quite good and worthwhile; and slightly pleasant, sweet, nice, happy, clean, and relaxed.

PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION  
 The participation (or watching others participate) in  
 physical activities to get away from the problems of modern  
 living; to provide a release from "pent up emotions".

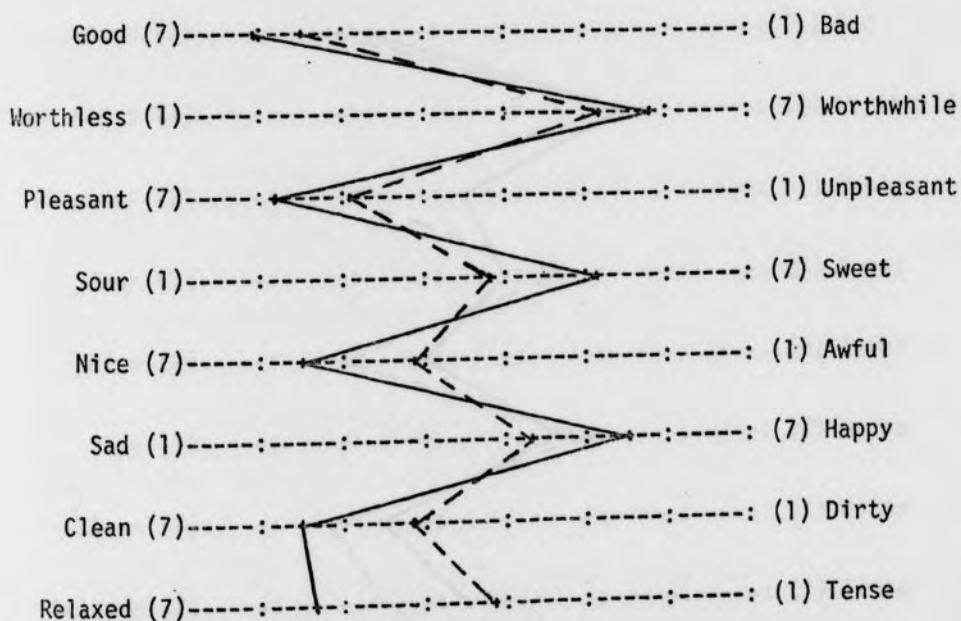


FIGURE 27

Profile of Scale Means for "Physical Activity for  
 the Release of Tension" as perceived by  
 Students and Physical Educators

Note: Students = -----  
 Physical Educators = \_\_\_\_\_



**PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING**  
 Physical activities which require long periods of strenuous and often painful training; which involve stiff competition and demands that the individual give up a number of pleasures for a period of time.

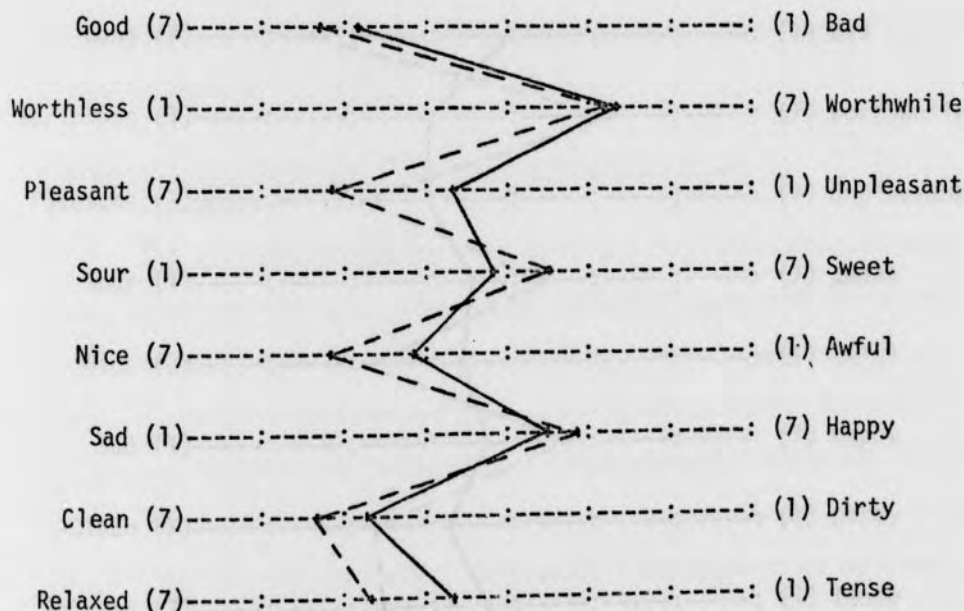


FIGURE 28

Profile of Scale Means for "Physical Activity as Prolonged and Strenuous Training" as Perceived by Students and Physical Educators

Note: Students = -----  
 Physical Educators = \_\_\_\_\_

# PHYSICAL ACTIVITY AS GAMES OF CHANCE

Games and sports where chance and luck are more important than skill in determining the winner, such as dice or horse racing.

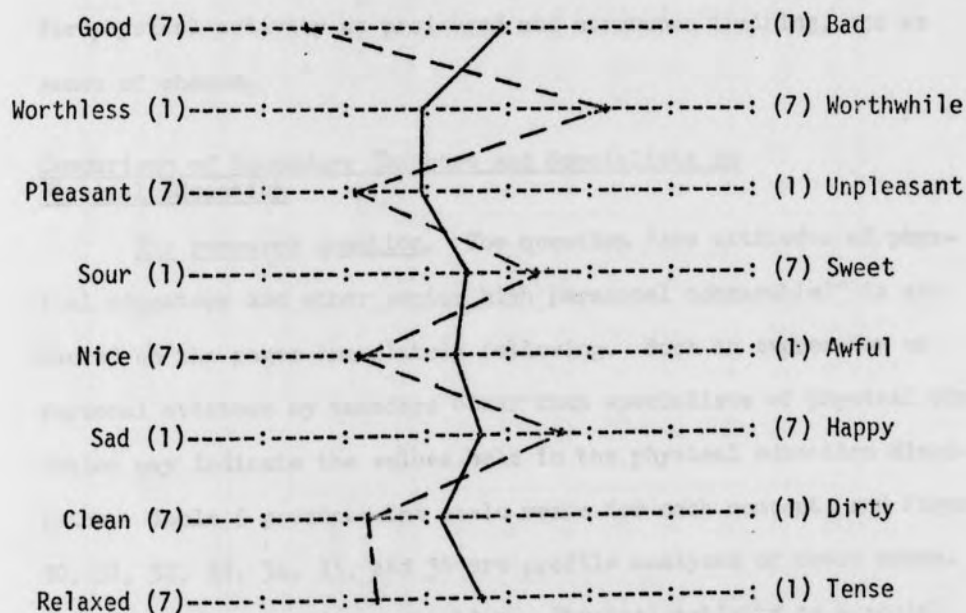


FIGURE 29

Profile of Scale Means for "Physical Activity as Games of Chance" as perceived by Students and Physical Educators

Note: Students = -----  
Physical Educators = \_\_\_\_\_

Summary. The meanings of physical activity perceived by students and physical educators reveals rather definite differences. Specialists in physical education have stronger attitudes toward physical activity as a social experience, as a thrill but involving some risk, as beauty in human movement, and for the release of tension. Students responses are interpretable as having more meaning for physical activity as prolonged and strenuous training, and as games of chance.

Comparison of Secondary Teachers and Specialists in Physical Education

The research question. The question "Are attitudes of physical educators and other senior high personnel comparable?" is answered on the pages immediately following. Such an expression of personal attitude by teachers other than specialists of physical education may indicate the values held in the physical education discipline. Table 5 presents the scale means for each concept, and Figures 30, 31, 32, 33, 34, 35, and 36 are profile analyses of those means.

Analysis and interpretation. Physical activity as a social experience, see Figure 30, indicates secondary teachers and physical education specialists have similar meaning of their perception of that concept. In general, the physical educators reveal slightly stronger meaning. They rate the scales as extremely worthwhile; quite good, pleasant, sweet, nice, happy, clean, and relaxed in relation to the concept. Secondary teachers view activity as a social experience to be quite good, worthwhile, pleasant, nice, happy, clean, and relaxed; and slightly sweet.

TABLE 5

Scale Means for Concepts Rated by Secondary Teachers  
and Physical Educators

Scale	Concept													
	Social Experience		Health and Fitness		Thrill and Risk		Beauty		Release of Tension		Training		Games of Chance	
	Teach	PhyEd	Teach	PhyEd	Teach	PhyEd	Teach	PhyEd	Teach	PhyEd	Teach	PhyEd	Teach	PhyEd
1	6.33	6.35	6.67	6.42	4.60	5.56	6.73	6.45	6.46	6.55	4.83	5.45	4.08	3.53
2	6.42	6.56	6.65	6.45	4.77	5.71	6.77	6.20	6.54	6.39	5.58	5.76	4.02	3.48
3	6.39	6.24	5.71	5.83	4.42	5.23	6.79	6.35	6.25	6.38	3.85	4.24	4.41	4.53
4	5.27	5.66	5.02	5.33	4.25	4.95	5.65	5.73	5.21	5.58	3.94	4.39	4.14	4.07
5	6.14	6.16	5.58	5.83	4.39	5.27	6.58	6.20	6.08	5.98	4.27	4.60	4.27	4.24
6	6.10	6.13	5.65	5.83	4.54	5.19	6.39	5.94	5.98	6.08	4.44	4.94	4.21	4.19
7	5.73	6.12	5.60	5.95	4.62	5.27	6.21	6.30	5.64	6.05	4.52	5.33	4.12	4.38
8	5.56	5.83	5.42	5.65	3.26	3.93	5.65	5.85	5.54	5.86	3.12	4.18	3.12	3.80

N = Teach 52  
Phy Ed 66

PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE  
 Sports, games and other forms of physical recreation  
 whose primary purpose is to provide opportunities for  
 social participation; that is, to meet new people and  
 continue personal friendships.

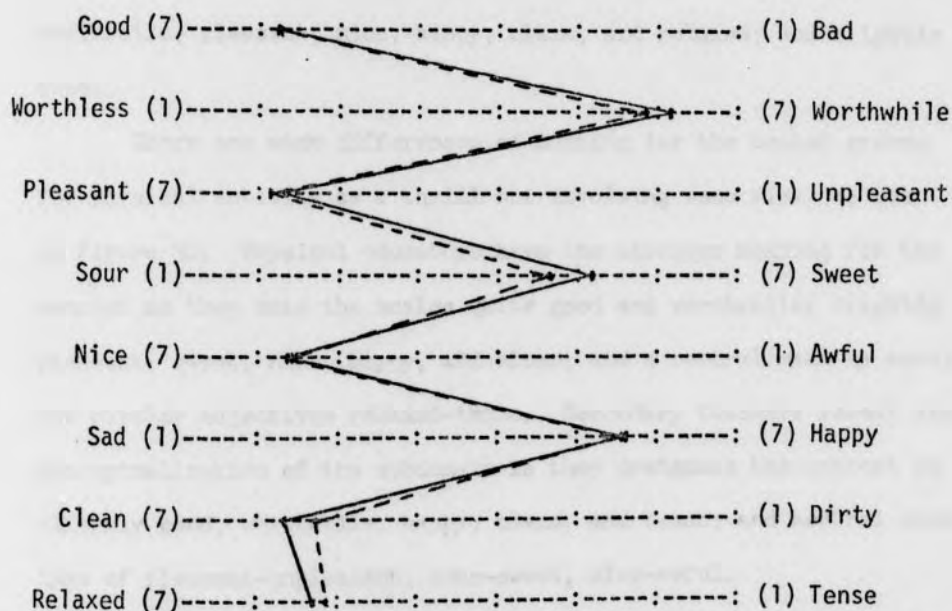


FIGURE 30

Profile of Scale Means for "Physical Activity as  
 a Social Experience" as Perceived by Secondary  
 Teachers and Physical Educators

Note: Secondary Teachers = -----  
 Physical Educators = \_\_\_\_\_

In Figure 31, physical activity for health and fitness indicates strong agreement of the interpretation of the concept by the two populations. Secondary teachers indicate the concept to be extremely good and worthwhile; quite pleasant, nice, happy, and clean; and slightly sweet and relaxed. Specialists in physical education reveal convictions that activity for health and fitness is quite good, worthwhile, pleasant, nice, happy, clean, and relaxed; and slightly sweet.

There are wide differences of meaning for the tested groups for physical activity as a thrill but involving some risk, as seen in Figure 32. Physical educators have the stronger meaning for the concept as they rate the scales quite good and worthwhile; slightly pleasant, sweet, nice, happy, and clean; and a neutral mean is assigned the bipolar adjectives relaxed-tense. Secondary teachers reveal less conceptualization of the subdomain as they designate the concept as slightly good, worthwhile, happy, clean, and tense; and neutral meanings of pleasant-unpleasant, sour-sweet, nice-awful.

Likenesses appear in the meaning of physical activity as the beauty in human movement. See Figure 33. It is noted that secondary teachers perceive beauty in human movement with more meaning than the specialists in physical education. Physical educators indicate the concept as quite good, worthwhile, pleasant, sweet, nice, happy, clean, and relaxed. Secondary teachers reveal interpretation of the concept as extremely good, worthwhile, pleasant, and nice; and quite sweet, happy, clean, and relaxed.



PHYSICAL ACTIVITY FOR HEALTH AND FITNESS  
 Participating in physical activity primarily  
 to improve one's health and physical fitness.

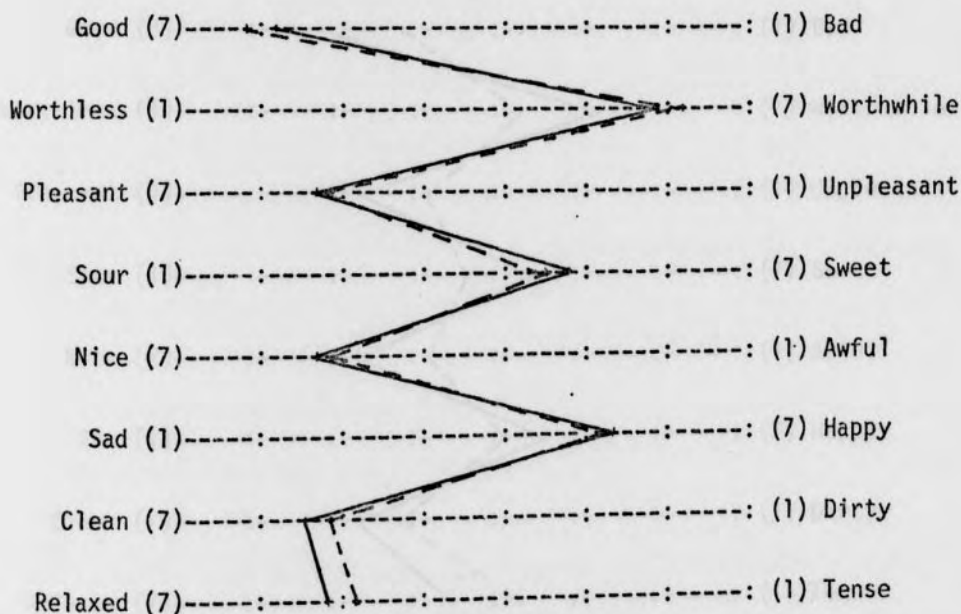


FIGURE 31

Profile of Scale Means for "Physical Activity for  
 Health and Fitness" as Perceived by Secondary  
 Teachers and Physical Educators

Note: Secondary Teachers = -----  
 Physical Educators = \_\_\_\_\_

PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK  
Physical activities providing, at some risk to the participant, thrills and excitement through speed, acceleration, sudden change of direction, and exposure to dangerous situations.

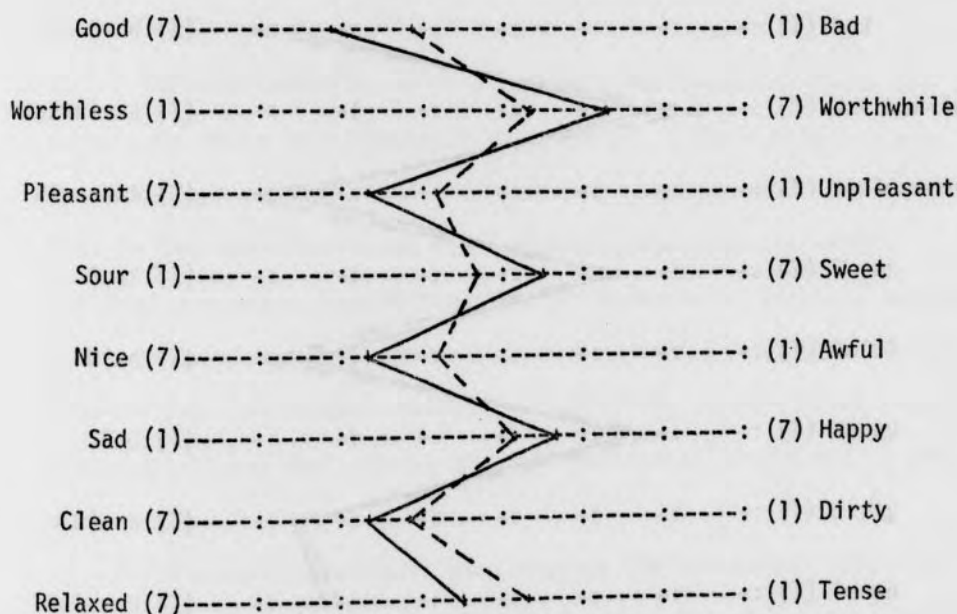


FIGURE 32

Profile of Scale Means for "Physical Activity as a Thrill but Involving Some Risk" as Perceived by Secondary Teachers and Physical Educators

Note: Secondary Teachers = -----  
Physical Educators = \_\_\_\_\_

PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT  
Physical activities which are thought of as possessing  
beauty of certain artistic qualities such as ballet,  
gymnastics or figure skating.

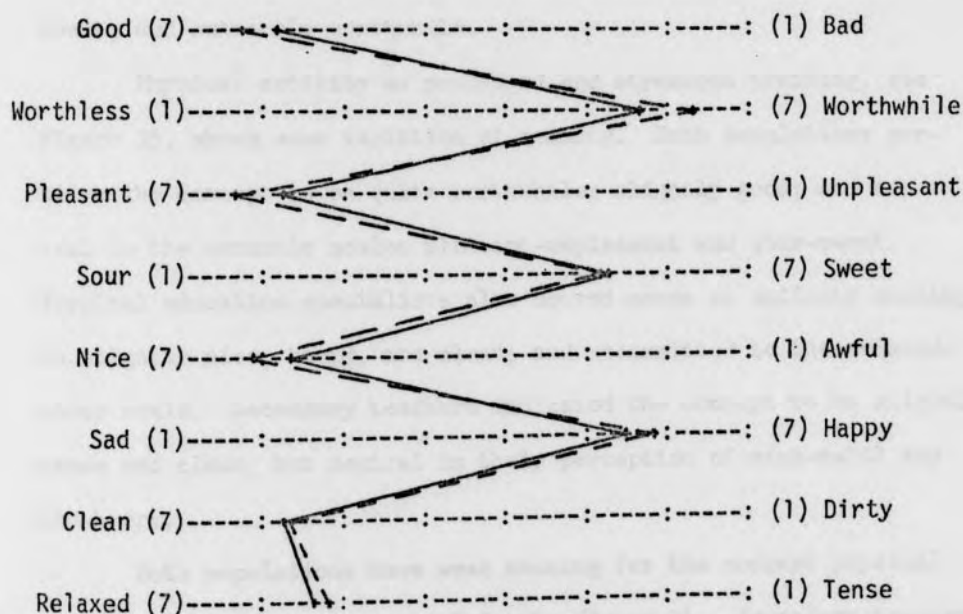


FIGURE 33

Profile of Scale Means for "Physical Activity as  
the Beauty in Human Movement" as Perceived by  
Secondary Teachers and Physical Educators

Note: Secondary Teachers = -----  
Physical Educators = \_\_\_\_\_

Attitude toward physical activity for the release of tension, profiled in Figure 34, is similar for the compared populations. Physical education specialists perceive meaning of the subdomain to be extremely good, quite worthwhile, pleasant, sweet, nice, happy, clean, and relaxed. Secondary teachers indicate conceptualization as quite good, pleasant, nice, happy, clean, and relaxed; slightly sweet; and extremely worthwhile.

Physical activity as prolonged and strenuous training, see Figure 35, shows some variation of meaning. Both populations perceive the concept to be quite worthwhile; slightly good; and neutral to the semantic scales pleasant-unpleasant and sour-sweet. Physical education specialists also scored means to indicate meaning as slightly nice, happy, and clean; and uncommitted to the relaxed-tense scale. Secondary teachers indicated the concept to be slightly tense and clean; but neutral in their perception of nice-awful and sad-happy.

Both populations have weak meaning for the concept physical activity as games of chance. Refer to Figure 36. Secondary teachers indicate neutral impressions toward games of chance on all scales except for a "slightly" tense evaluation. Specialists in physical education interpret the concept as neutral other than being slightly worthless, but also pleasant.

Summary. Profiles 30 through 36 compare general senior high school personnel and specialists in physical education. There appears to be no gross differences in attitude toward physical activity as a social experience, for health and fitness, as the beauty in

**PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION**  
 The participation (or watching others participate) in physical activities to get away from the problems of modern living; to provide a release from "pent up emotions".

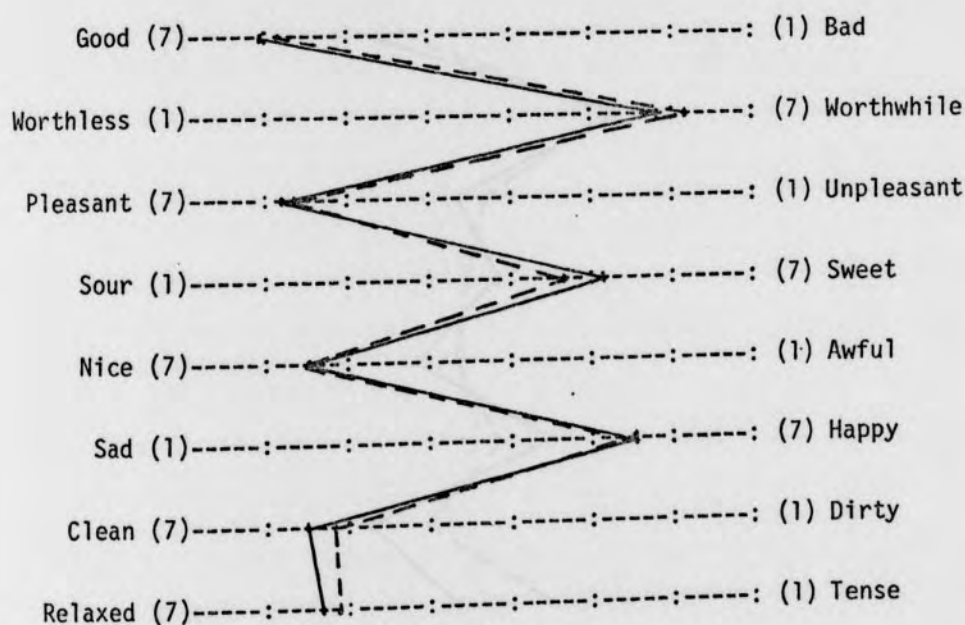


FIGURE 34

Profile of Scale Means for "Physical Activity  
 for the Release of Tension" as Perceived by  
 Secondary Teachers and Physical Educators

Note: Secondary Teachers = -----  
 Physical Educators = \_\_\_\_\_

**PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING**  
 Physical activities which require long periods of strenuous and often painful training; which involve stiff competition and demands that the individual give up a number of pleasures for a period of time.

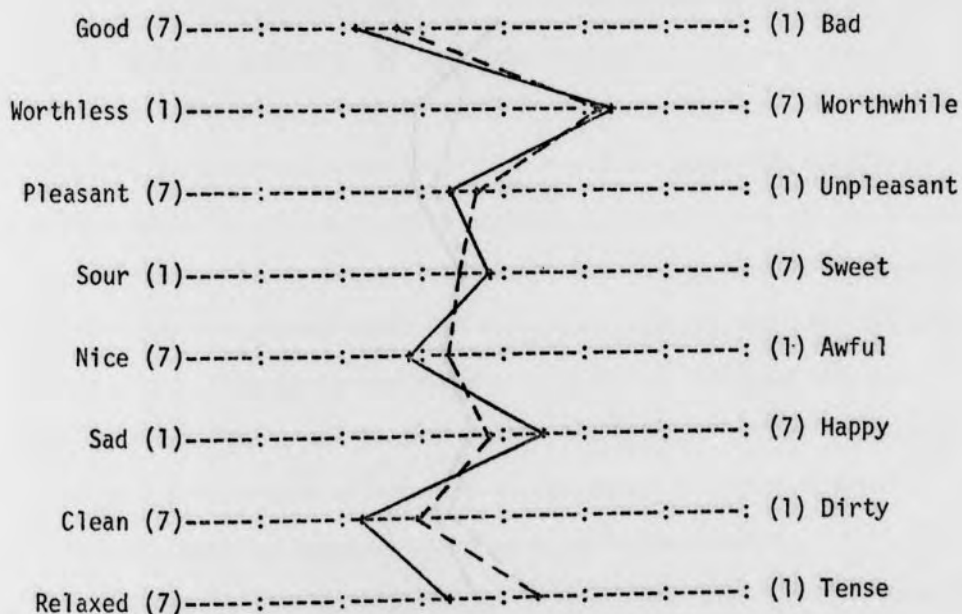


FIGURE 35

Profile of Scale Means for "Physical Activity as Prolonged and Strenuous Training" as Perceived by Secondary Teachers and Physical Educators

Note: Secondary Teachers = -----  
 Physical Educators = \_\_\_\_\_



### PHYSICAL ACTIVITY AS GAMES OF CHANCE

Games and sports where chance and luck are more important than skill in determining the winner, such as dice or horse racing.

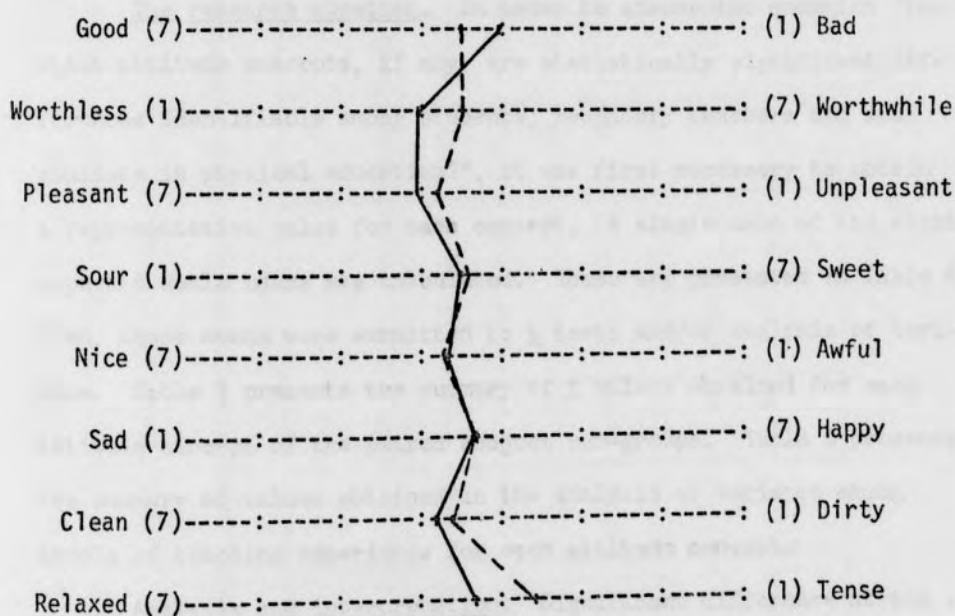


FIGURE 36

Profile of Scale Means for "Physical Activity as Games of Chance" as Perceived by Secondary Teachers and Physical Educators

Note: Secondary Teachers = -----  
Physical Educators = - - - - -

human movement, for the release of tension, and as games of chance. There does appear to be differences between populations in relation to physical activity as a thrill but involving some risk, and as prolonged and strenuous training.

#### Differences Among Subject Sub-Groups

The research question. In order to answer the question "For which attitude concepts, if any, are statistically significant differences identifiable among students, secondary teachers and specialists in physical education?", it was first necessary to obtain a representative value for each concept. A single mean of the eight separate scale means was calculated. These are presented in Table 6. Then, these means were submitted to  $t$  tests and/or analysis of variance. Table 7 presents the summary of  $t$  values obtained for each attitude concept of the paired subject sub-groups. Table 8 presents the summary of values obtained in the analysis of variance among levels of teaching experience for each attitude concept.

Analysis and interpretation. Significant difference at the .05 level was found between/among a number of groups of subjects who participated in this study. Differences between male and female physical education specialists were found in five of seven subdomains defining attitude toward physical activity. Greatest difference was found within physical activity as games of chance,  $t=3.41$ , followed by physical activity as human movement,  $t=3.34$ , and physical activity for health and fitness,  $t=3.23$ . These differences were significant at the .01 level. Significance at the .05 level was found within physical

TABLE 6  
Means of Scale Means for Concepts Rated  
by All Subject Sub-Groups

Concept	Subject Sub-Groups										
	Male	Female	Junior	Senior	Student	PhyEd	Teach	PhyEd	1-2	3-5	Over5
Social Experience	5.98	6.34	6.32	5.88	5.52	6.13	5.99	6.13	6.36	6.16	6.02
Health and Fitness	5.67	6.26	5.98	5.77	5.57	5.91	5.79	5.91	5.91	5.68	5.99
Thrill and Risk	5.26	5.08	4.62	5.00	4.60	5.14	4.36	5.14	4.83	5.22	5.14
Beauty	5.87	6.42	6.19	6.07	5.52	6.13	6.35	6.13	6.28	6.12	6.09
Release of Tension	5.92	6.32	6.17	6.02	4.88	6.11	5.96	6.11	6.22	6.12	6.08
Training Games of Chance	4.89	4.84	4.79	4.99	5.52	4.86	4.32	4.86	5.22	4.50	4.91
	4.36	3.66	3.98	4.11	5.38	4.03	4.05	4.03	4.50	3.98	3.95
N=	35	31	40	26	515	66	52	66	9	14	43

TABLE 7

Summary: t Values Obtained for Each Attitude Concept  
of the Subject Sub-Groups

Concept	Subject Sub-Groups			
	Male/Female	Junior/Senior	Student/PhyEd	Teach/PhyEd
Social Experience	2.35*	2.83*	3.34**	.77
Health and Fitness	3.23**	1.05	1.56	.51
Thrill and Risk	.63	.58	2.10	3.09**
Beauty	3.34**	.75	4.88**	1.15
Release of Tension	2.32*	.92	4.15**	.74
Training Games of Chance	.16	.66	2.77*	1.63
	3.41**	.61	7.49**	.09

\*.05 Level of Significance  $\geq$  2.145

\*\* .01 Level of Significance  $\geq$  2.977

+ Generated from Scale Means

TABLE 8

ANOVA Summary: Level of Teaching Experience  
and Attitude Concepts+

Concept	Means	Obtained F	Difference
Social Experience			
1-2	6.36	2.15	n.s.
3-5	6.12		
Over 5	6.02		
Health and Fitness			
1-2	5.91	.84	n.s.
3-5	5.68		
Over 5	5.99		
Thrill and Risk			
1-2	4.83	1.06	n.s.
3-5	5.22		
Over 5	5.14		
Beauty			
1-2	6.28	.56	n.s.
3-5	6.12		
Over 5	6.09		
Release of Tension			
1-2	5.22	.24	n.s.
3-5	4.50		
Over 5	4.91		
Training			
1-2	6.22	2.50	n.s.
3-5	6.12		
Over 5	6.08		
Games of Chance			
1-2	4.50	5.01	significant at .05
3-5	3.98		
Over 5	3.95		

+Generated from scale means

activity for the release of tension. On the other hand, there is closeness of perceived attitude toward physical activity as a thrill but involving some risk; and noticeable agreement,  $t=.16$ , for physical activity as prolonged and strenuous training interpreted by male and female specialists in physical education.

The only significant difference found between junior high school and senior high school physical education specialists was in the concept physical activity as a social experience. The  $t$  value calculated was 2.83.

In general, five statistical differences were found between students and physical educators. The greatest difference,  $t=7.49$ , was for the attitude physical activity as games of chance;  $t=4.88$ , was obtained for activity as the beauty in human movement;  $t=4.15$ , for the release of tension; and  $t=3.34$  for physical activity as a social experience. These four concepts reveal significant differences at the .01 level. Finally, attitude toward physical activity as prolonged and strenuous training was significant at .05 with a  $t$  value of 2.77.

Between secondary teachers and specialists in physical education, statistical difference was found for only one attitude concept--activity as a thrill but involving some risk. The obtained  $t$  was 3.09, which was significant at .01. As a whole, the attitudes of secondary teachers and physical educators toward physical activity are quite similar.



Significant differences were not found to be the trend among levels of teaching experience. First and second year teachers, teachers with three to five years of experience, and those with more than five years in teaching hold very similar attitudes. Only in the concept of physical activity as games of chance was a statistically significant difference found to exist. The F value obtained was 5.10, which was significant at .05.

Summary. In determining attitude differences for physical activity between/among subject sub-groups, t tests and ANOVAS were computed. Results indicate many statistical differences. Junior high school and senior high school physical education specialists evaluate differently the concept physical activity as a social experience. Physical educators with varying years of teaching experience designate different meaning for physical activity as games of chance. Secondary teachers and specialists in physical education interpret activity as a thrill but involving some risk in a significantly different way. Five of seven concepts were found to be significantly different between male and female specialists. They are: (a) physical activity as a social experience, (b) physical activity for health and fitness, (c) physical activity as beauty in human movement, (d) physical activity for the release of tension, and (e) physical activity as games of chance. Students and physical education specialists also have major differences within five concepts. Those are: (a) physical activity as a social experience, (b) physical activity as the beauty in human movement, (c) physical activity

for the release of tension, (d) physical activity as prolonged and strenuous training, and (e) physical activity as games of chance. Thus it was found, that in general, the female physical education specialists perceive stronger meaning, implying stronger attitude, of physical activity as defined by Kenyon's inventory than do male physical educators. And that physical educators definitely have stronger attitude toward physical activity than do students.

#### Chapter Summary

Profile analyses from the scale mean data obtained for all subject sub-groups permitted visual interpretation of the attitudes held by participants in this inquiry toward physical activity. There were variations in perceived meanings in many subdomains comparing male and female physical education specialists and also in the comparison of physical educators and students. The most neutral perception of all concepts was physical activity as games of chance. This indicates little strength of meaning; therefore it is inferred that the concept is little valued.

Significant differences among concepts were found as follows:

1. Physical activity as a social experience reveals major differences of attitude between students and specialists in physical education. The  $t$  value was 3.34, significant at the .01 level. Differences at the .05 level were found between male and female specialists,  $t=2.35$ , and junior high school and senior high school physical education personnel,  $t=2.83$ .

2. Physical activity for health and fitness reveals a .01 level of significance,  $t = 3.23$ , between men and women teachers of the physical education discipline.

3. Physical activity as a thrill but involving some risk indicates one comparison with substantial difference of attitude. The secondary teachers and specialists in physical education designate a  $t$  value of 3.09, significantly different at the .01 level.

4. Physical activity as the beauty in human movement is thought of differently within two comparisons. Students and physical educators evaluate the concept with a  $t$  value of 4.88. A  $t=3.34$  calculation is indicated between male and female specialists of physical education.

5. Physical activity for the release of tension attitude is significant at the .01 level,  $t=4.15$ ; between physical education personnel and students. There is variation at the .05 level between men and women specialists. The  $t$  value was found as 2.32.

6. Physical activity as prolonged and strenuous training indicates a difference of attitude between students and physical educators. A .05 level of significance,  $t$  value of 2.77, was computed.

7. Physical activity as games of chance reveal the greatest differences of attitude of all the concepts tested. Students and teachers of physical education have greatest variation with a  $t$  value of 7.49. Male and female specialists also differ at the .01 level of significance with a scored  $t$  of 3.41. Physical educators with varying years of teaching experience indicate a 5.10 F value, or a significance of difference at the .05 level.

## CHAPTER V

## SUMMARY AND CONCLUSIONS

Summary

Purpose. The purpose of this investigation was to determine the attitudes toward physical activity held by selected physical education specialists. A further purpose was to compare those attitudes of physical educators to attitudes of students and other secondary teachers in a specified population--Ben L. Smith High School, Greensboro, North Carolina. Specifically, the investigation sought to answer the following questions:

Are attitudes of female physical educators and male physical educators comparable?

Are attitudes of senior high school physical educators and junior high school physical educators comparable?

Are attitudes of physical educators with varying years of teaching experience comparable?

Are attitudes of physical educators and students comparable?

Are attitudes of physical educators and other senior high school personnel comparable?

For which attitude concepts, if any, are statistically significant differences identifiable among students, secondary teachers and specialists in physical education?

Procedures. Subjects included the 66 specialists in physical education employed by the Greensboro Public Schools for the 1973-1974 school year. Comparisons of attitude toward physical activity were made among 515 students and 52 secondary school personnel of

Ben L. Smith High School, Greensboro, utilizing data collected in a project of the Center for Innovation in Secondary School Physical Education. All subjects responded to the Kenyon Attitude Inventory, a semantic differential form consisting of seven concepts, purportedly valid and representing physical activity (Kenyon, 1968b). The investigator collected data personally in February, 1974, at pre-arranged meetings in each of the other secondary schools in the system employing physical education specialists. Analyzing the data involved the following: (a) scoring and calculating means for each scale comprising each concept, (b) profile plotting and analysis of each concept for all subject sub-groups, and (c) applying  $t$  tests and ANOVAS to representative means to determine significances of difference between and among subject groups for each concept.

### Conclusions

Meanings held for "physical activity" by groups of Greensboro Public Schools secondary teachers and students were determined by use of the semantic differential. From these scales, attitudes toward physical activity were inferred. Data permitted the following answers to questions framing this investigation.

Are attitudes of female physical educators and male physical educators comparable? Profile analysis provides means for making a visual comparison of the two sub-groups by concept. Statistically, female specialists assign greater meaning to several concepts than do men. Women designate a mean rating of 6.34 for physical activity as a social experience, compared to 5.98 for men. The obtained  $t$  value



of 2.35 indicates that this difference is significant at the .05 level. Significance at the .01 level was found between the two sexes for the concepts physical activity for health and fitness,  $t=3.23$ ; as beauty in human movement,  $t=3.34$ ; and as games of chance,  $t=3.41$ . Although there is significant difference between the two populations for physical activity as games of chance, both groups are undecided as to distinctiveness of meaning of this concept. Males assign a mean rating of 4.36 and the female mean of 3.66 is closer to the center of semantic space. Another concept which male and female physical educators perceive significantly differently is physical activity for the release of tension. Females give stronger meaning for the concept than men; a  $t$  value of 2.32 was calculated for this concept. Both groups of specialists have similar values for physical activity as a thrill but involving some risk. The greatest agreement of attitude in all concepts comparing the sexes was found in physical activity as prolonged and strenuous training. Males have a mean score of 4.89 and females have a 4.84.

Are attitudes of senior high physical educators and junior high school physical educators comparable? In general, all concepts appear, in profile, to be similar in meaning to both populations. But for the concept physical activity as a social experience a statistically significant difference was found at .05 between junior and senior high school physical educators. The mean of means score of 6.32 was computed for junior high personnel, with senior high personnel indicating a 5.88. This may be interpreted to mean that



junior high physical educators assign stronger meaning to this subdomain of activity. All other concepts are statistically close in meaning for these specialized junior high and senior high school personnel.

Are attitudes of physical educators with varying years of teaching experience comparable? Overall the three populations of teaching experience, 1-2 years, 3-5 years, and over 5 years, indicate similar meaning to all seven subdomains defining physical activity. First and second year teachers appear to have a more definitive attitude about physical activity as prolonged and strenuous training and as games of chance. The mean score of all scales specifies the visual presentation of the profile. First and second year teachers are closer to the center of origin in their designation of meaning. The only significant difference was found at the .05 level. Physical activity as games of chance,  $F$  value = 5.10, was perceived differently among the three sub-groups.

Are attitudes of physical educators and students comparable? Profiles show definite differences of meaning of physical activity between students and physical education personnel. Teachers of physical education assign more distinct meaning to physical activity as a social experience, for health and fitness, as a thrill but involving some risk, as beauty in human movement, and for the release of tension. Students express clearer meaning for physical activity as prolonged and strenuous training, and as games of chance. Differences on one concept, physical activity as prolonged and strenuous training, were significant at the .05 level of confidence. Students

mean value for this concept was 5.52; physical educators' mean response was 4.86. Differences at the .01 level were found for the concepts physical activity as a social experience,  $t=3.34$ ; for the release of tension,  $t=4.15$ ; as beauty in human movement,  $t=4.88$ ; and finally, as games of chance,  $t=7.49$ . Of the seven Kenyon scales then, there are only two (physical activity for health and fitness and physical activity as a thrill but involving some risk) concepts which reflect similar attitudes held by the teacher specialists and their students.

Are attitudes of physical educators and other senior high personnel comparable? Profile analysis indicates no major differences in attitude toward physical activity for five of seven concepts: physical activity as a social experience, for health and fitness, as beauty in human movement, for the release of tension, and as games of chance. Conceptualizations of physical activity as prolonged and strenuous training and as a thrill but involving some risk do reflect differences in attitude. Statistical analysis, however verifies a real difference on only one concept. Physical activity as a thrill but involving some risk yielded a  $t$  of 3.09, significant at the .01 level between physical educators and other senior high school personnel. The most agreed upon concept of all paired sub-groups is between secondary teachers and physical education specialists for physical activity as games of chance. For both groups there is a lack of distinctiveness in defining physical activity. The mean for secondary teachers for this concept is 4.05; for physical educators the mean is 4.03.

Thus, attitudes toward physical activity inferred from this study are at one and the same time similar in some respects but different in others. Profile analyses bear out sameness on many concepts. However, statistical analyses pinpoint some of the finer distinctions. The interpretations of the investigation, then, lie in the values one places on attitude measurement in general and Kenyon's scales in particular.

#### Discussion

As cited in the review of literature, Reichle and Jackson (n.d.) investigated the relationship of group membership to values toward physical activity. Subjects were male physical education "upper level" majors, "thus somewhat representative of teachers going out" into the field; and "frosh" non-majors, "thus somewhat representative of high school students" (Reichle and Jackson, n.d., p. 2). The measurement tool was Kenyon's Attitude Toward Physical Activity, Form D (men). The findings indicate that the most important variables discriminating between the two populations were for physical activity for the release of tension (catharsis) and physical activity as beauty in human movement. "The physical education major students view physical activity at a higher level than their non-major counterparts (Reichle and Jackson, n.d., p. 5)." The authors write:

It is quite likely that such conflict may be manifested in curricula offerings, and programs are providing activities not highly valued by students. This conflict between the basic curriculum and the educational principle of meeting the needs and interests of the students has been supported by an organizational structure in which physical education people tend to make curricula decisions using traditional program offerings, even though it is well accepted that important instructional objectives can be achieved by many different avenues (Reichle and Jackson, n.d., p. 5).

The findings of this study tend to support the above discussed type of conflict. In addition, this inquiry identifies significant differences between students and physical education specialists for their attitudes toward physical activity as a social experience, physical activity as prolonged and strenuous training, and physical activity as games of chance.

Other findings also seem to warrant comment. It was not surprising, to the investigator, that junior high school and senior high school physical education specialists, and physical educators who have varying years of teaching experience perceive physical activity to be similar in meaning. The one attitude domain for which a significant difference between junior high and senior high personnel found was physical activity as a social experience. The concept has more distinct meaning for the junior high teachers of physical education. Possibly, the teachers are keenly aware that their program in junior high school is the initial exposure to organized physical education within the Greensboro system. As a first teaching-learning experience with group sport and sportsmanship, the social value may be more exaggerated.

It is of interest to realize that secondary school teachers of all subjects and those who specialize in physical education have similar attitudes toward activity. The slightly stronger meaning assigned to physical activity as beauty in human movement by general teachers suggests that they may be more sensitive to the beauty of movement than the specialists. It is conceivable that these educators transfer aesthetic notions of art, prose and verse, and music to the grace and poise of human movement associated with physical activity, whereas physical educators may tend to focus on the task and achievement aspects of activity.

Students assign stronger meaning to the concept physical activity as prolonged and strenuous training than do specialists of physical education. A reason for such meaning may be that students look at activity as prolonged and strenuous training as being "fun" while physical educators, in the practice of their profession, view long periods of strenuous training as "work."

The finding that female specialists of physical education have the same attitude toward physical activity as prolonged and strenuous training as do men physical educators offers some promise for the future of high level sports for girls and women. In spite of the traditional male dominance and association with competitive sports, women physical educators indicate just as strong an attitude toward training "which involve stiff competition and demands" as their male counterparts. Such attitudes, reflective of deeper values, is possibly one of the reasons why women seek the same opportunities from sport as men have enjoyed for years.



The difference in physical activity attitude between physical educators and students raises several questions. For example, are effects of physical activity ever taught or are feelings for and about activity merely expected to happen? Should there be disparity between student and teacher attitudes? If the answer to this question is yes, how may these differences be reconciled in the programs of physical education and in the way in which they are conducted? The writer believes it is a responsibility of the physical educator to instill desirable attitudes toward active participation in and out of school if the stated goals of education are to be achieved. Secondary teachers of other subjects maintain definite, and in general, strong attitudes toward physical activity. Does this mean that we must wait for high school students to become adults before they revalue physical activity? It is asserted by the writer that we cannot afford such delay. There should be teaching at every level of education for desirable attitudes for the present and the future. These attitudes may, after all, influence the student to incorporate a wholesome approach to living by adding physical activity to his life style.

It would also appear to be worthwhile for men and women physical education specialists to take time to share with each other their attitudes toward physical activity. This study reveals that several sub-domains of activity are viewed differently by men and women. The implications here relate to the broad goals and more specific objectives specified by these teachers for their programs and curricular experiences. In this era of combining boys and girls departments into a single administrative unit within schools and the increased



involvement of girls in competitive programs and sports awareness of attitudes among teachers can contribute to broader understandings and, hopefully, more sensitive instruction. Staff development seminars or clinics may be quite beneficial in contributing to such understandings as well as delineating approaches to curriculum planning and teaching. The sharing of ideas and attitudes by staff has the potential to pay off for the student who is, after all, the critical factor in the education process.

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## INSTRUCTIONS

The purpose of this inventory is to measure the meaning for you of certain phenomena of physical activity by judging them against a series of descriptive scales. In taking this test, please make your judgments on the basis of what these things mean to you. On each page of the booklet you will find a different idea or concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order in which they are given.

Here is how you are to use these scales:

If you feel that the concept in the box at the top of the page, for example "REPERK", is very closely related to one end of the scale, you should place your check-mark as follows:

REPERK

fair 1 2 3 4 5 6 7 unfair

Appendix A

Sample Instrument

fair 1 2 3 4 5 6 7 unfair

If you feel that the concept is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

fair 1 2 3 4 5 6 7 unfair

or

fair 1 2 3 4 5 6 7 unfair

If the concept seems only slightly related to one side as opposed to the other side (but is not neutral), then you should check as follows:

fair 1 2 3 4 5 6 7 unfair

or

fair 1 2 3 4 5 6 7 unfair

## INSTRUCTIONS

The purpose of this inventory is to measure the meaning for you of certain concepts of physical activity by judging them against a series of descriptive scales. In taking this test, please make your judgements on the basis of what these things mean to you. On each page of the booklet you will find a different idea or concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order in which they are given.

Here is how you are to use these scales:

If you feel that the concept in the box at the top of the page, for example "REFEREE", is very closely related to one end of the scale, you should place your check-mark as follows:

REFEREE
---------

fair  $\frac{X}{1} : \frac{\quad}{2} : \frac{\quad}{3} : \frac{\quad}{4} : \frac{\quad}{5} : \frac{\quad}{6} : \frac{\quad}{7}$  : unfair

or

fair  $\frac{\quad}{1} : \frac{\quad}{2} : \frac{\quad}{3} : \frac{\quad}{4} : \frac{\quad}{5} : \frac{\quad}{6} : \frac{X}{7}$  : unfair

If you feel that the concept is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

fair  $\frac{\quad}{1} : \frac{X}{2} : \frac{\quad}{3} : \frac{\quad}{4} : \frac{\quad}{5} : \frac{\quad}{6} : \frac{\quad}{7}$  : unfair

or

fair  $\frac{\quad}{1} : \frac{\quad}{2} : \frac{\quad}{3} : \frac{\quad}{4} : \frac{\quad}{5} : \frac{X}{6} : \frac{\quad}{7}$  : unfair

If the concept seems only slightly related to one side as opposed to the other side (but is not neutral), then you should check as follows:

fair  $\frac{\quad}{1} : \frac{\quad}{2} : \frac{X}{3} : \frac{\quad}{4} : \frac{\quad}{5} : \frac{\quad}{6} : \frac{\quad}{7}$  : unfair

or

fair  $\frac{\quad}{1} : \frac{\quad}{2} : \frac{\quad}{3} : \frac{\quad}{4} : \frac{X}{5} : \frac{\quad}{6} : \frac{\quad}{7}$  : unfair

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you are judging. If you consider the concept to be neutral on the scale (that is, both sides of the scale seem equally associated with the concept), or if the scale makes no sense, (that is, it is unrelated to the concept) then you should place your check-mark in the middle space:

safe           :        :        :   X   :        :        :        : dangerous  
           1      2      3      4      5      6      7

IMPORTANT: (1) Place your check-mark in the middle of spaces, not on the boundaries:

                  THIS            NOT THIS  
                                   X  
       :        :   X   :        :        :        :

- (2) Be sure you check every scale for every concept--  
do not omit any.
- (3) Never put more than one check-mark on a single scale.
- (4) The numbers under each scale are merely to assist in analysis of the data by computers. You do not need to pay any attention to them.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the test. Make each item a separate and independent judgement. Work at a fairly high speed through the test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless because we want your true impressions.

Using the scales below, respond on the  
 answer sheet that the degree to which you agree or disagree with the following statement.

THE FOLLOWING INFORMATION IS NECESSARY IN ORDER TO ANSWER THE QUESTION PROPOSED IN THE STUDY "ATTITUDES TOWARD PHYSICAL ACTIVITY HELD BY SELECTED STUDENTS AND SECONDARY SCHOOL TEACHERS OF THE GREENSBORO PUBLIC SCHOOL SYSTEM."

PLEASE "X" THE APPROPRIATE BLANK.

SEX: \_\_\_\_\_ FEMALE \_\_\_\_\_ MALE

TEACHING POSITION: \_\_\_\_\_ JUNIOR HIGH \_\_\_\_\_ SENIOR HIGH

TEACHING EXPERIENCE: \_\_\_\_\_ 1-2 YEARS \_\_\_\_\_ 3-5 YEARS \_\_\_\_\_ OVER 5





Using the Scales Below, Express on the  
Answer Sheet What the Concept in the Box Means to You

PHYSICAL ACTIVITY FOR HEALTH AND FITNESS  
Participating in physical activity primarily to  
improve one's health and physical fitness.

As you proceed, always be thinking about the idea or concept in the box.

1. good           :        :        :        :        :        :           bad  
          1        2        3        4        5        6        7
2. worthless           :        :        :        :        :        :           worthwhile  
          1        2        3        4        5        6        7
3. pleasant           :        :        :        :        :        :           unpleasant  
          1        2        3        4        5        6        7
4. sour           :        :        :        :        :        :           sweet  
          1        2        3        4        5        6        7
5. nice           :        :        :        :        :        :           awful  
          1        2        3        4        5        6        7
6. sad           :        :        :        :        :        :           happy  
          1        2        3        4        5        6        7
7. clean           :        :        :        :        :        :           dirty  
          1        2        3        4        5        6        7
8. relaxed           :        :        :        :        :        :           tense  
          1        2        3        4        5        6        7

Using the Scales Below, Express on the  
Answer Sheet What the Concept in the Box Means to You

PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK  
Physical activities providing, at some risk to the participant, thrills and excitement through speed, acceleration, sudden change of direction, and exposure to dangerous situations.

As you proceed, always be thinking about the idea or concept in the box.

1.      good        :     :     :     :     :     :        bad  
              1     2     3     4     5     6     7
2.    worthless        :     :     :     :     :     :        worthwhile  
                      1     2     3     4     5     6     7
3.    pleasant        :     :     :     :     :     :        unpleasant  
                      1     2     3     4     5     6     7
4.      sour        :     :     :     :     :     :        sweet  
                      1     2     3     4     5     6     7
5.      nice        :     :     :     :     :     :        awful  
                      1     2     3     4     5     6     7
6.      sad        :     :     :     :     :     :        happy  
                      1     2     3     4     5     6     7
7.    clean        :     :     :     :     :     :        dirty  
                      1     2     3     4     5     6     7
8.    relaxed        :     :     :     :     :     :        tense  
                      1     2     3     4     5     6     7

Using the Scales Below, Express on the  
Answer Sheet What the Concept in the Box Means to You

PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT  
Physical activities which are thought of as possessing  
beauty of certain artistic qualities such as ballet,  
gymnastics or figure skating.

As you proceed, always be thinking about the idea or concept in the box.

1.      good          :       :       :       :       :       :          bad  
              1        2        3        4        5        6        7
2.    worthless          :       :       :       :       :       :          worthwhile  
                      1        2        3        4        5        6        7
3.    pleasant          :       :       :       :       :       :          unpleasant  
                      1        2        3        4        5        6        7
4.      sour          :       :       :       :       :       :          sweet  
                      1        2        3        4        5        6        7
5.      nice          :       :       :       :       :       :          awful  
                      1        2        3        4        5        6        7
6.      sad          :       :       :       :       :       :          happy  
                      1        2        3        4        5        6        7
7.      clean          :       :       :       :       :       :          dirty  
                      1        2        3        4        5        6        7
8.    relaxed          :       :       :       :       :       :          tense  
                      1        2        3        4        5        6        7

Using the Scales Below, Express on the  
Answer Sheet What the Concept in the Box Means to You

**PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION**  
The participation (or watching others participate) in  
physical activities to get away from the problems of  
modern living; to provide a release from "pent up emo-  
tions".

As you proceed, always be thinking about the idea or concept in the box.

1.      good        :    :    :    :    :    :        bad  
              1      2      3      4      5      6      7
2.    worthless        :    :    :    :    :    :        worthwhile  
                  1      2      3      4      5      6      7
3.    pleasant        :    :    :    :    :    :        unpleasant  
                  1      2      3      4      5      6      7
4.      sour        :    :    :    :    :    :        sweet  
                  1      2      3      4      5      6      7
5.      nice        :    :    :    :    :    :        awful  
                  1      2      3      4      5      6      7
6.      sad        :    :    :    :    :    :        happy  
                  1      2      3      4      5      6      7
7.      clean        :    :    :    :    :    :        dirty  
                  1      2      3      4      5      6      7
8.    relaxed        :    :    :    :    :    :        tense  
                  1      2      3      4      5      6      7

Using the Scales Below, Express on the  
Answer Sheet What the Concept in the Box Means to You

PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING  
Physical activities which require long periods of strenuous  
and often painful training; which involve stiff competition  
and demands that the individual give up a number of pleasures  
for a period of time.

As you proceed, always be thinking about the idea or concept in the box.

1. good      :      :      :      :      :      :      bad  
          1      2      3      4      5      6      7
2. worthless      :      :      :      :      :      :      worthwhile  
          1      2      3      4      5      6      7
3. pleasant      :      :      :      :      :      :      unpleasant  
          1      2      3      4      5      6      7
4. sour      :      :      :      :      :      :      sweet  
          1      2      3      4      5      6      7
5. nice      :      :      :      :      :      :      awful  
          1      2      3      4      5      6      7
6. sad      :      :      :      :      :      :      happy  
          1      2      3      4      5      6      7
7. clean      :      :      :      :      :      :      dirty  
          1      2      3      4      5      6      7
8. relaxed      :      :      :      :      :      :      tense  
          1      2      3      4      5      6      7

Using the Scales Below, Express on the  
Answer Sheet What the Concept in the Box Means to You

PHYSICAL ACTIVITY AS GAMES OF CHANCE

Games and sports where chance and luck are more  
important than skill in determining the winner,  
such as dice or horse racing.

As you proceed, always be thinking about the idea or concept in the box.

1. good 1 : 2 : 3 : 4 : 5 : 6 : 7 bad
2. worthless 1 : 2 : 3 : 4 : 5 : 6 : 7 worthwhile
3. pleasant 1 : 2 : 3 : 4 : 5 : 6 : 7 unpleasant
4. sour 1 : 2 : 3 : 4 : 5 : 6 : 7 sweet
5. nice 1 : 2 : 3 : 4 : 5 : 6 : 7 awful
6. sad 1 : 2 : 3 : 4 : 5 : 6 : 7 happy
7. clean 1 : 2 : 3 : 4 : 5 : 6 : 7 dirty
8. relaxed 1 : 2 : 3 : 4 : 5 : 6 : 7 tense



A Priori and Derived Weights for the  
Semantic Differential Scales

Attitude	Item Number	A Priori Weights	Derived Weights
Social Experience	1	7-6-5-4-3-2-1	7-5-4-3-2-1-1
	2	1-2-3-4-5-6-7	1-3-2-1-4-5-6
	3	7-6-5-4-3-2-1	7-6-4-3-2-1-1
	4	1-2-3-4-5-6-7	1-3-3-5-6-7-7
	5	7-6-5-4-3-2-1	7-6-5-4-2-1-1
	6	1-2-3-4-5-6-7	1-1-2-4-5-6-7
	7	7-6-5-4-3-2-1	7-6-5-3-3-1-3
	8	7-6-5-4-3-2-1	7-6-6-5-4-4-4
Health and Fitness	1	7-6-5-4-3-2-1	6-5-3-2-1-1-1
	2	1-2-3-4-5-6-7	3-1-1-3-3-5-6
	3	7-6-5-4-3-2-1	7-6-3-1-1-3-1
	4	1-2-3-4-5-6-7	1-3-3-5-6-7-7
	5	7-6-5-4-3-2-1	7-7-5-4-2-2-1
	6	1-2-3-4-5-6-7	2-2-2-4-3-6-7
	7	7-6-5-4-3-2-1	7-6-5-4-6-3-1
	8	7-6-5-4-3-2-1	7-6-6-5-6-6-6
Form of Vertigo	1	7-6-5-4-3-2-1	6-5-4-3-3-2-1
	2	1-2-3-4-5-6-7	1-2-3-4-6-6-7
	3	7-6-5-4-3-2-1	7-6-5-4-3-2-1
	4	1-2-3-4-5-6-7	1-2-1-4-5-7-7
	5	7-6-5-4-3-2-1	7-6-5-4-2-1-1
	6	1-2-3-4-5-6-7	1-1-2-3-3-6-7
	7	7-6-5-4-3-2-1	6-6-3-4-3-2-2
	8	7-6-5-4-3-2-1	7-7-6-5-5-6-3
Aesthetic	1	7-6-5-4-3-2-1	7-6-4-3-2-1-1
	2	1-2-3-4-5-6-7	1-2-3-5-3-6-7
	3	7-6-5-4-3-2-1	7-6-4-4-1-2-1
	4	1-2-3-4-5-6-7	1-2-3-5-5-6-7
	5	7-6-5-4-3-2-1	7-6-5-4-2-2-1
	6	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	7	7-6-5-4-3-2-1	6-5-4-4-3-2-1
	8	7-6-5-4-3-2-1	7-6-5-5-5-6-3

Appendix B

Instrument for Scoring Purposes

## A Priori and Derived Weights for the

## Semantic Differential Scales

Attitude	Item Number	A Priori Weights	Derived Weights
Social Experience			
	1	7-6-5-4-3-2-1	7-5-4-3-2-1-1
	2	1-2-3-4-5-6-7	1-2-2-3-4-5-6
	3	7-6-5-4-3-2-1	7-6-4-3-2-1-1
	4	1-2-3-4-5-6-7	1-2-3-5-6-7-7
	5	7-6-5-4-3-2-1	7-6-5-4-2-1-1
	6	1-2-3-4-5-6-7	2-3-2-4-5-6-7
	7	7-6-5-4-3-2-1	7-6-5-5-3-3-3
	8	7-6-5-4-3-2-1	7-6-6-5-4-4-4
Health and Fitness			
	1	7-6-5-4-3-2-1	6-5-3-2-1-1-1
	2	1-2-3-4-5-6-7	3-2-1-3-3-5-6
	3	7-6-5-4-3-2-1	7-6-5-4-3-2-1
	4	1-2-3-4-5-6-7	1-3-3-5-6-7-7
	5	7-6-5-4-3-2-1	7-7-5-4-2-2-1
	6	1-2-3-4-5-6-7	2-2-2-4-5-6-7
	7	7-6-5-4-3-2-1	7-6-5-4-4-3-1
	8	7-6-5-4-3-2-1	7-6-6-5-4-4-4
Pursuit of Vertigo			
	1	7-6-5-4-3-2-1	6-5-4-3-3-2-1
	2	1-2-3-4-5-6-7	1-2-3-4-4-6-7
	3	7-6-5-4-3-2-1	7-6-5-4-3-2-1
	4	1-2-3-4-5-6-7	1-2-3-4-5-7-7
	5	7-6-5-4-3-2-1	7-6-5-4-2-1-1
	6	1-2-3-4-5-6-7	1-1-2-3-5-6-7
	7	7-6-5-4-3-2-1	6-6-5-4-3-2-2
	8	7-6-5-4-3-2-1	7-7-6-5-5-4-3
Aesthetic			
	1	7-6-5-4-3-2-1	7-6-4-3-2-1-1
	2	1-2-3-4-5-6-7	1-2-3-3-5-6-7
	3	7-6-5-4-3-2-1	7-6-4-4-3-2-1
	4	1-2-3-4-5-6-7	1-2-3-5-5-6-7
	5	7-6-5-4-3-2-1	7-6-5-4-2-2-1
	6	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	7	7-6-5-4-3-2-1	6-5-4-4-3-2-1
	8	7-6-5-4-3-2-1	7-6-5-5-5-4-3

Attitude	Item Number	A Priori Weights	Derived Weights
Catharsis	1	7-6-5-4-3-2-1	6-5-4-3-2-1-1
	2	1-2-3-4-5-6-7	1-2-2-3-4-6-7
	3	7-6-5-4-3-2-1	7-6-4-4-2-2-1
	4	1-2-3-4-5-6-7	1-2-3-5-6-7-7
	5	7-6-5-4-3-2-1	7-6-5-4-2-2-1
	6	1-2-3-4-5-6-7	1-3-3-4-5-6-7
	7	7-6-5-4-3-2-1	7-6-5-5-3-3-1
	8	7-6-5-4-3-2-1	7-6-5-5-4-4-3
Ascetic	1	7-6-5-4-3-2-1	6-5-4-4-3-2-1
	2	1-2-3-4-5-6-7	1-1-2-3-4-5-6
	3	7-6-5-4-3-2-1	7-7-6-5-4-2-1
	4	1-2-3-4-5-6-7	1-2-3-5-6-7-7
	5	7-6-5-4-3-2-1	7-7-5-4-3-2-1
	6	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	7	7-6-5-4-3-2-1	6-5-4-3-2-2-1
	8	7-6-5-4-3-2-1	7-6-6-5-4-3-3
Games of Chance	1	7-6-5-4-3-2-1	7-6-5-4-3-2-1
	2	1-2-3-4-5-6-7	2-3-4-5-6-6-7
	3	7-6-5-4-3-2-1	6-5-4-3-2-1-1
	4	1-2-3-4-5-6-7	1-2-3-4-5-7-7
	5	7-6-5-4-3-2-1	7-6-5-4-2-1-1
	6	1-2-3-4-5-6-7	1-2-3-3-5-6-7
	7	7-6-5-4-3-2-1	7-6-5-4-3-2-1
	8	7-6-5-4-3-2-1	7-6-5-4-4-3-2

Summated Means for Concepts Based by Population  
 Junior Population

Appendix C  
 Summated Means for Concepts

Concept	Population				
	Male 10-15	Female 10-15	Teacher 16-25	Senior 26-35	Years of Experience 36-45
Social Superiority Masculinity and Femininity Thrill and Risk	47.577	50.762	25.220	11.5	49.071
	45.314	46.901	42.106	11.5	45.179
	41.600	40.545	31.775	10.92	41.897
Security Release of Tension	46.971	51.323	49.336	12.577	49.000
	47.371	50.186	49.300	12.115	45.929
Training Status of Children	39.200	38.710	38.575	39.885	36.000
	36.800	39.303	31.850	32.000	31.786
					40.731
					47.930
					41.336
					48.531
					40.651
					39.256
					31.605

Summated Means for Concepts Rated by Physical

Educator Populations

Concept	Population						
	Sex		Teaching Level		Years of Experience		
	Male N=35	Female N=31	Junior N=40	Senior N=26	1-2 N=9	3-5 N=14	Over 5 N=43
Social Experience	47.657	50.742	50.400	47.115	51.000	49.071	48.721
Health and Fitness	45.314	49.581	48.100	46.115	47.333	45.429	47.930
Thrill and Risk	41.600	40.645	41.775	40.192	39.222	41.857	41.326
Beauty	46.971	51.323	49.300	48.577	51.111	49.000	48.581
Release of Tension	47.371	50.484	49.300	48.115	49.556	48.929	48.651
Training Games of Chance	39.200	38.710	38.375	39.885	42.222	36.000	39.256
	34.800	29.323	31.850	32.808	35.889	31.786	31.605

Summated Means for Concepts Rated by Students, Secondary  
Teachers, and Physical Educators

Concept	Population		
	Students N=515	Secondary Teachers N=52	Physical Educators N=66
Social Experience	44.350	47.981	49.106
Health and Fitness	44.676	46.308	47.318
Thrill and Risk	36.761	35.038	41.152
Beauty	49.460	50.808	49.015
Release of Tension	43.163	47.692	48.833
Training	33.301	34.538	38.970
Games of Chance	33.775	32.442	32.227



Appendix D  
Statistical Formulas Used in Analysis

t Test Formula

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left( \frac{EY_1^2 + EY_2^2}{N+N-2} \right) \left( \frac{1}{N_1} + \frac{1}{N_2} \right)}}$$

## Analysis of Variance Formula

$$F = \frac{MS_{Tr}}{MS_E}$$

$MS_{Tr}$  = mean square treatment

$MS_E$  = mean square error

## CODE INTERPRETATION

Sex

Male = 1

Female = 2

Level

Junior Appendix E = 1

Senior High School = 2

Raw Data

Experience

1-2 Years Teaching = 1

3-5 Years Teaching = 2

Over 5 Years Teaching = 3

Smell

East-Side = 1

North-Side - Northside = 2

Pleasant - Pleasant = 3

Sour-Sweet = 4

Nice-Sulky = 5

Sud-Happy = 6

Clean-Dirty = 7

Relaxed-Tense = 8

Scale for Perception of "Physical Activity"  
as a "Social Experience"

Subject	Sex	Level	Experience	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01	1	1	3	7	7	7	6	6	6	6	3
02	1	1	3	7	7	7	6	6	6	6	3
03	1	1	3	7	7	7	6	6	6	6	3
04	1	1	3	7	7	7	6	6	6	6	3
05	1	1	3	7	7	7	6	6	6	6	3
06	1	1	3	7	7	7	6	6	6	6	3
07	1	1	3	7	7	7	6	6	6	6	3
08	1	1	3	7	7	7	6	6	6	6	3
09	1	1	3	7	7	7	6	6	6	6	3
10	1	1	3	7	7	7	6	6	6	6	3
11	1	1	3	7	7	7	6	6	6	6	3
12	1	1	3	7	7	7	6	6	6	6	3
13	1	1	3	7	7	7	6	6	6	6	3
14	1	1	3	7	7	7	6	6	6	6	3
15	1	1	3	7	7	7	6	6	6	6	3
16	1	1	3	7	7	7	6	6	6	6	3
17	1	1	3	7	7	7	6	6	6	6	3
18	1	1	3	7	7	7	6	6	6	6	3
19	1	1	3	7	7	7	6	6	6	6	3
20	1	1	3	7	7	7	6	6	6	6	3
21	1	1	3	7	7	7	6	6	6	6	3
22	1	1	3	7	7	7	6	6	6	6	3
23	1	1	3	7	7	7	6	6	6	6	3
24	1	1	3	7	7	7	6	6	6	6	3
25	1	1	3	7	7	7	6	6	6	6	3
26	1	1	3	7	7	7	6	6	6	6	3
27	1	1	3	7	7	7	6	6	6	6	3
28	1	1	3	7	7	7	6	6	6	6	3
29	1	1	3	7	7	7	6	6	6	6	3
30	1	1	3	7	7	7	6	6	6	6	3
31	1	1	3	7	7	7	6	6	6	6	3
32	1	1	3	7	7	7	6	6	6	6	3
33	1	1	3	7	7	7	6	6	6	6	3
34	1	1	3	7	7	7	6	6	6	6	3
35	1	1	3	7	7	7	6	6	6	6	3
36	1	1	3	7	7	7	6	6	6	6	3
37	1	1	3	7	7	7	6	6	6	6	3
38	1	1	3	7	7	7	6	6	6	6	3
39	1	1	3	7	7	7	6	6	6	6	3
40	1	1	3	7	7	7	6	6	6	6	3

CODE INTERPRETATION

Sex

Male = 1  
Female = 2

Level

Junior High School = 1  
Senior High School = 2

Experience

1-2 Years Teaching = 1  
3-5 Years Teaching = 2  
Over 5 Years Teaching = 3

Scales

Good-Bad = 1  
Worthless-Worthwhile = 2  
Pleasant-Unpleasant = 3  
Sour-Sweet = 4  
Nice-Awful = 5  
Sad-Happy = 6  
Clean-Dirty = 7  
Relaxed-Tense = 8

Scores for Perception of "Physical Activity  
as a Social Experience"

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01	1	1	3	7	7	7	7	6	6	6	3
02	1	1	2	7	7	7	6	6	6	7	2
03	1	1	3	7	7	7	7	7	7	7	7
04	2	1	3	5	5	5	6	5	6	6	6
05	2	1	3	6	7	7	6	7	7	6	7
06	2	1	3	7	7	7	7	7	7	7	7
07	2	2	3	7	7	7	5	6	6	5	6
08	2	2	3	6	6	7	5	6	6	4	6
09	1	2	3	7	7	4	4	4	4	7	7
10	1	2	3	5	7	4	4	5	6	6	5
11	1	2	3	6	7	6	6	6	7	6	5
12	1	2	3	7	7	6	5	6	5	6	5
13	2	2	3	6	6	7	4	6	4	4	6
14	2	2	3	7	6	7	4	7	6	6	7
15	2	2	2	7	7	7	4	6	6	4	5
16	2	2	3	7	7	7	7	7	7	7	4
17	1	2	3	5	6	5	5	6	6	5	4
18	1	2	3	7	6	6	5	6	7	6	6
19	1	2	2	7	7	6	6	6	7	5	6
20	1	2	3	7	7	6	6	5	5	7	5
21	1	2	3	6	6	7	5	7	6	7	7
22	1	2	1	7	7	7	6	6	6	7	6
23	1	2	3	5	7	6	6	6	6	7	7
24	2	2	3	6	6	7	7	6	7	7	6
25	2	2	3	7	7	7	7	7	7	7	7
26	1	2	3	7	7	7	7	7	6	5	7
27	1	1	2	7	7	6	6	6	7	7	7
28	2	1	3	7	7	7	7	7	7	7	7
29	2	1	1	6	7	6	6	7	7	7	7
30	1	1	3	7	7	7	6	6	6	7	7
31	1	1	3	6	7	7	5	6	4	5	7
32	2	1	3	7	7	7	7	7	7	7	7
33	2	1	1	7	7	6	4	6	5	4	5
34	2	1	3	7	7	7	5	7	7	7	7
35	1	1	2	7	7	7	6	7	6	6	4
36	1	1	2	7	6	6	4	5	5	6	5
37	2	1	3	7	7	7	7	7	7	7	6
38	2	1	3	7	7	6	6	7	7	6	5
39	1	1	1	6	6	5	5	5	5	6	5
40	1	1	3	7	7	7	7	7	7	7	7

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
41	1	1	2	5	4	5	5	6	6	6	6
42	1	1	2	7	7	7	7	7	7	6	5
43	2	1	3	6	6	7	5	6	5	6	4
44	2	1	2	7	7	7	4	7	7	5	7
45	1	1	2	6	6	7	5	5	6	6	7
46	1	1	3	4	6	1	5	6	6	5	4
47	2	1	3	6	6	6	5	5	6	6	6
48	2	1	1	7	7	7	6	7	7	7	7
49	1	2	3	5	5	5	4	5	5	5	5
50	1	2	3	2	4	4	4	4	4	4	4
51	1	2	3	2	4	4	4	4	4	4	4
52	2	2	2	6	7	6	4	5	6	4	6
53	2	2	3	7	7	7	7	7	7	7	7
54	1	1	3	6	6	5	4	6	5	6	4
55	2	1	3	6	7	7	6	7	7	7	3
56	2	1	3	6	6	4	6	6	4	7	5
57	2	1	1	7	7	6	5	5	6	5	5
58	2	1	3	7	7	7	7	7	7	7	5
59	1	1	1	7	6	7	7	7	7	7	7
60	1	1	2	7	7	7	7	7	7	7	7
61	1	1	1	6	7	7	7	7	7	7	7
62	1	1	1	7	7	7	7	7	7	7	7
63	2	1	2	7	7	7	7	7	7	6	6
64	2	1	3	7	7	6	7	7	7	7	7
65	1	1	2	6	7	6	5	5	6	6	6
66	2	2	3	7	7	6	6	6	7	7	7



Scores for Perception of "Physical Activity  
for Health and Fitness"

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01	1	1	3	7	7	7	7	7	7	7	6
02	1	1	2	7	7	6	5	6	6	7	6
03	1	1	3	7	7	7	7	7	7	7	7
04	2	1	3	6	5	5	3	6	6	6	6
05	2	1	3	7	7	6	6	6	6	7	7
06	2	1	3	7	7	7	7	7	7	7	6
07	2	2	3	7	7	7	6	7	7	5	6
08	2	2	3	5	7	6	4	5	5	4	4
09	1	2	3	7	7	4	4	4	4	4	5
10	1	2	3	5	6	6	5	6	6	6	6
11	1	2	3	7	7	6	6	6	6	6	6
12	1	2	3	6	6	6	5	6	5	6	6
13	2	2	3	7	7	6	4	6	4	4	6
14	2	2	3	7	7	7	4	6	6	6	6
15	2	2	2	7	7	6	4	4	6	4	6
16	2	2	3	7	7	6	7	5	5	7	7
17	1	2	3	4	7	4	6	4	7	4	4
18	1	2	3	7	7	7	6	6	7	6	6
19	1	2	2	7	7	5	3	3	2	2	6
20	1	2	3	7	7	5	5	6	6	6	4
21	1	2	3	6	6	6	5	6	6	6	7
22	1	2	1	7	7	7	7	7	6	7	6
23	1	2	3	7	7	7	7	7	7	7	7
24	2	2	3	6	7	7	6	7	7	7	7
25	2	2	3	7	7	5	5	6	6	4	6
26	1	2	3	7	7	6	6	6	6	7	7
27	1	1	2	7	7	6	6	6	7	7	6
28	2	1	3	7	7	7	7	7	7	7	7
29	2	1	1	7	7	7	7	7	7	6	7
30	1	1	3	6	2	6	7	7	6	7	7
31	1	1	3	7	7	5	6	5	6	7	7
32	2	1	3	7	7	7	7	7	7	7	7
33	2	1	1	7	7	6	4	6	7	7	6
34	2	1	3	7	7	7	7	7	7	7	7
35	1	1	2	7	7	1	4	7	5	7	4
36	1	1	2	6	6	6	4	5	5	6	5
37	2	1	3	7	7	7	4	6	7	6	6
38	2	1	3	7	7	6	6	6	6	7	5
39	1	1	1	5	5	5	6	6	5	5	6
40	1	1	3	7	7	6	6	6	5	5	6

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
41	1	1	2	6	6	5	4	5	6	6	4
42	1	1	2	7	7	6	5	7	5	5	1
43	2	1	3	7	7	5	4	6	4	5	4
44	2	1	2	7	7	7	4	7	7	5	7
45	1	1	2	7	3	7	4	5	6	7	5
46	1	1	3	2	5	5	6	5	5	5	3
47	2	1	3	5	6	5	4	4	4	6	4
48	2	1	1	7	7	7	7	7	7	7	7
49	1	2	3	5	5	4	5	5	5	5	5
50	1	2	3	4	5	4	4	4	5	4	3
51	1	2	3	4	5	4	4	4	5	4	3
52	2	2	2	6	6	6	4	5	5	3	4
53	2	2	3	7	7	7	6	7	7	7	7
54	1	1	3	7	7	5	4	6	5	6	5
55	2	1	3	7	7	7	7	7	7	7	7
56	2	1	3	7	7	6	6	2	6	7	7
57	2	1	1	7	7	5	6	3	6	7	6
58	2	1	3	5	4	7	4	5	3	5	5
59	1	1	1	7	7	7	7	7	7	7	7
60	1	1	2	7	7	7	7	7	7	7	7
61	1	1	1	5	5	1	1	5	3	5	2
62	1	1	1	6	6	5	3	5	3	5	2
63	2	1	2	7	7	6	6	7	6	6	6
64	2	1	3	7	6	6	7	7	6	7	7
65	1	1	2	6	6	5	5	5	6	6	5
66	2	2	3	7	7	7	7	7	7	7	7

Scores for Perception of "Physical Activity  
as a Thrill but Involving Some Risk"

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01	1	1	3	7	7	7	7	7	7	5	2
02	1	1	2	6	6	6	6	5	5	6	3
03	1	1	3	6	5	6	6	6	6	6	2
04	2	1	3	6	6	5	6	6	4	4	5
05	2	1	3	7	6	7	6	6	2	6	7
06	2	1	3	7	7	7	6	7	7	7	6
07	2	2	3	6	6	6	6	6	6	6	1
08	2	2	3	5	5	5	4	5	5	4	2
09	1	2	3	7	7	7	4	4	4	5	4
10	1	2	3	6	6	6	5	5	6	4	2
11	1	2	3	6	6	6	6	6	6	6	3
12	1	2	3	7	7	6	6	7	6	7	6
13	2	2	3	7	7	7	4	6	6	4	4
14	2	2	3	1	1	1	1	1	1	1	1
15	2	2	2	5	6	6	4	4	4	4	2
16	2	2	3	7	7	5	6	7	7	7	6
17	1	2	3	5	4	5	5	5	6	4	4
18	1	2	3	7	7	5	6	5	7	5	4
19	1	2	2	7	7	6	6	7	6	6	1
20	1	2	3	7	7	5	5	5	4	6	4
21	1	2	3	6	6	6	5	5	6	6	5
22	1	2	1	6	2	6	2	6	2	7	6
23	1	2	3	4	5	4	3	4	4	5	4
24	2	2	3	5	5	5	5	6	6	6	6
25	2	2	3	7	7	7	7	6	5	4	4
26	1	2	3	7	7	5	6	5	6	5	4
27	1	1	2	5	2	5	5	6	5	5	2
28	2	1	3	7	7	6	6	6	6	6	6
29	2	1	1	4	4	6	6	4	4	4	4
30	1	1	3	7	7	7	7	7	7	7	7
31	1	1	3	5	5	3	4	3	5	7	3
32	2	1	3	6	6	6	6	5	6	6	6
33	2	1	1	1	1	2	4	1	4	4	1
34	2	1	3	6	6	3	5	4	5	4	3
35	1	1	2	7	7	4	4	4	5	6	5
36	1	1	2	7	6	6	4	4	4	4	1
37	2	1	3	4	5	4	4	4	4	6	6
38	2	1	3	6	7	6	6	6	7	6	5
39	1	1	1	6	6	3	5	6	5	6	5
40	1	1	3	5	5	3	4	5	4	5	2

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
41	1	1	2	6	6	6	6	6	6	6	4
42	1	1	2	3	5	5	4	4	4	4	1
43	2	1	3	7	7	6	4	6	6	6	3
44	2	1	2	7	7	7	4	6	5	4	7
45	1	1	2	5	7	5	4	5	4	7	6
46	1	1	3	4	6	5	5	6	6	5	2
47	2	1	3	2	3	2	4	4	4	4	4
48	2	1	1	4	4	5	5	6	4	6	5
49	1	2	3	4	4	4	4	4	4	4	4
50	1	2	3	2	3	2	3	4	3	4	2
51	1	2	3	4	5	4	4	4	5	4	3
52	2	2	2	6	6	7	4	6	4	7	2
53	2	2	3	6	6	6	6	6	7	7	5
54	1	1	3	6	7	6	4	6	7	5	5
55	2	1	3	5	6	3	5	4	6	7	1
56	2	1	3	5	6	3	5	4	5	5	6
57	2	1	1	7	7	5	3	4	5	4	2
58	2	1	3	2	4	4	3	4	3	4	4
59	1	1	1	5	7	6	6	7	7	6	5
60	1	1	2	6	7	6	7	7	6	6	4
61	1	1	1	7	7	7	7	7	7	7	7
62	1	1	1	6	6	6	2	6	6	5	2
63	2	1	2	7	7	6	7	6	6	6	5
64	2	1	3	7	7	7	7	7	7	7	7
65	1	1	2	5	5	5	5	5	5	5	5
66	2	2	3	6	6	6	6	6	6	6	6

Scores for Perception of "Physical Activity  
as the Beauty in Human Movement"

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01	1	1	3	7	5	6	6	6	6	6	6
02	1	1	2	6	6	7	6	6	7	6	2
03	1	1	3	3	4	6	6	6	6	6	6
04	2	1	3	6	3	6	4	4	3	5	5
05	2	1	3	7	7	7	6	7	7	7	7
06	2	1	3	7	7	7	7	7	7	7	7
07	2	2	3	7	7	7	6	7	7	6	6
08	2	2	3	7	7	7	5	7	6	7	7
09	1	2	3	7	7	7	4	4	4	4	7
10	1	2	3	6	6	6	6	6	6	7	5
11	1	2	3	7	7	7	7	7	7	7	6
12	1	2	3	6	7	6	6	7	6	7	7
13	2	2	3	7	7	7	4	7	4	4	4
14	2	2	3	7	7	7	4	7	7	7	7
15	2	2	2	7	7	7	4	6	7	6	6
16	2	2	3	7	7	7	7	7	7	7	7
17	1	2	3	6	5	3	5	4	6	4	4
18	1	2	3	7	7	6	7	7	6	6	4
19	1	2	2	7	7	6	5	5	6	6	3
20	1	2	3	7	7	6	6	7	7	7	6
21	1	2	3	7	7	7	6	6	6	7	7
22	1	2	1	7	7	7	6	6	6	7	7
23	1	2	3	7	7	7	7	7	7	7	7
24	2	2	3	6	6	6	6	6	6	6	6
25	2	2	3	7	7	7	7	7	7	7	7
26	1	2	3	7	7	6	6	6	5	7	5
27	1	1	2	7	7	7	7	7	6	6	5
28	2	1	3	7	7	7	7	7	7	7	7
29	2	1	1	7	7	7	7	7	7	7	7
30	1	1	3	6	1	7	6	6	7	7	7
31	1	1	3	7	7	7	7	7	7	7	6
32	2	1	3	7	7	7	7	7	7	7	7
33	2	1	1	7	1	7	7	7	7	7	7
34	2	1	3	7	7	7	7	7	7	7	7
35	1	1	2	7	7	7	7	7	7	7	7
36	1	1	2	7	6	6	4	5	5	6	5
37	1	1	3	7	7	7	7	7	7	7	7
38	2	1	3	7	7	6	6	6	6	7	6
39	1	1	1	6	7	6	6	7	6	6	6
40	1	1	3	6	7	7	6	7	6	7	6

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
41	1	1	2	6	6	6	6	6	5	6	3
42	1	1	2	7	7	7	5	7	6	7	5
43	2	1	3	7	7	7	4	6	4	7	5
44	2	1	2	7	7	7	4	7	6	5	7
45	1	1	2	7	5	7	4	5	5	7	7
46	1	1	3	5	6	3	6	2	5	5	5
47	2	1	3	5	5	5	5	5	6	5	5
48	2	1	1	6	6	7	6	7	7	7	7
49	1	2	3	4	5	4	2	4	5	5	5
50	1	2	3	5	5	5	6	5	5	5	5
51	1	2	3	3	3	2	3	3	3	4	2
52	2	2	2	6	7	7	4	6	4	4	6
53	2	2	3	7	7	7	7	7	7	7	7
54	1	1	3	5	6	5	4	5	5	6	5
55	2	1	3	7	7	7	7	7	7	7	7
56	2	1	3	6	6	7	6	6	7	7	6
57	2	1	1	7	7	7	6	6	7	7	6
58	2	1	3	5	4	4	4	4	4	4	4
59	1	1	1	7	7	7	7	6	6	7	6
60	1	1	2	7	5	7	6	7	6	7	7
61	1	1	1	7	7	7	7	7	7	7	7
62	1	1	1	5	5	5	3	5	5	7	1
63	2	1	2	7	7	7	7	7	7	7	6
64	2	1	3	7	7	6	6	7	6	6	6
65	1	1	2	7	6	6	6	7	6	7	5
66	2	2	3	7	7	7	7	7	7	7	7



Scores for Perception of "Physical Activity  
for the Release of Tension"

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01	1	1	3	7	7	7	7	6	6	7	3
02	1	1	2	7	7	7	7	7	5	7	1
03	1	1	3	7	7	7	7	7	7	7	7
04	2	1	3	4	3	5	4	3	6	4	4
05	2	1	3	7	7	7	7	7	7	7	7
06	2	1	3	7	7	5	6	7	7	6	7
07	2	2	3	7	7	7	6	7	7	6	6
08	2	2	3	7	7	6	4	6	6	4	5
09	1	2	3	7	7	7	4	4	7	7	7
10	1	2	3	7	7	6	6	6	6	6	6
11	1	2	3	7	7	7	7	7	7	6	6
12	1	2	3	7	7	7	6	7	7	7	7
13	2	2	3	7	7	6	4	7	7	5	4
14	2	2	3	7	7	7	4	7	7	7	7
15	2	2	2	7	7	7	4	4	6	4	6
16	2	2	3	7	7	7	6	7	7	7	7
17	1	2	3	4	4	5	3	5	4	4	4
18	1	2	3	7	7	6	6	6	6	7	6
19	1	2	2	7	7	7	5	6	6	6	3
20	1	2	3	7	6	6	6	6	6	6	4
21	1	2	3	6	6	7	6	7	6	6	7
22	1	2	1	7	7	7	7	7	7	7	6
23	1	2	3	6	6	7	6	7	7	7	7
24	2	2	3	7	7	7	7	7	7	7	7
25	2	2	3	7	7	7	7	7	6	5	7
26	1	2	3	7	7	7	6	6	6	6	7
27	1	1	2	7	7	6	6	6	6	6	7
28	2	1	3	7	7	7	7	7	7	7	7
29	2	1	1	7	7	7	7	7	7	7	7
30	1	1	3	7	7	7	4	4	7	4	7
31	1	1	3	7	5	6	5	6	6	6	5
32	2	1	3	7	7	7	7	7	7	7	7
33	2	1	1	7	7	7	7	7	7	7	7
34	2	1	3	7	1	7	5	3	5	7	7
35	1	1	2	7	7	7	4	4	4	4	4
36	1	1	2	7	6	6	4	5	5	6	5
37	2	1	3	7	7	7	7	7	7	7	7
38	2	1	3	6	6	6	6	6	6	5	5
39	1	1	1	5	5	5	4	4	5	6	4
40	1	1	3	6	6	5	4	5	6		

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
41	1	1	2	7	7	7	6	6	6	7	6
42	1	1	2	7	7	7	6	7	7	7	6
43	2	1	3	7	7	7	4	6	4	7	6
44	2	1	2	7	7	7	4	6	7	7	7
45	1	1	2	7	5	7	5	5	7	7	7
46	1	1	3	6	6	5	6	4	4	2	5
47	2	1	3	7	7	7	7	7	7	7	7
48	2	1	1	5	6	6	6	6	6	5	5
49	1	2	3	6	6	6	4	5	6	6	6
50	1	2	3	2	4	2	3	2	3	4	2
51	1	2	3	3	4	2	3	4	4	4	2
52	2	2	2	6	7	6	4	6	5	4	6
53	2	2	3	7	6	7	7	7	5	7	7
54	1	1	3	6	6	7	5	6	7	6	6
55	2	1	3	7	7	7	7	7	7	7	7
56	2	1	3	6	7	7	6	7	7	7	7
57	2	1	1	7	7	4	4	4	5	5	3
58	2	1	3	5	3	5	3	5	3	5	5
59	1	1	1	7	7	7	7	7	7	7	7
60	1	1	2	7	7	7	7	7	7	7	7
61	1	1	1	7	7	7	7	7	7	7	7
62	1	1	1	7	7	7	6	6	5	4	5
63	2	1	2	7	7	7	7	7	7	7	7
64	2	1	3	7	7	7	7	7	7	7	7
65	1	1	2	7	7	5	5	6	5	5	5
66	2	2	3	7	7	7	7	7	7	7	7

Scores for Perception of "Physical Activity  
as Prolonged and Strenuous Training"

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01	1	1	3	7	7	7	7	7	7	7	7
02	1	1	2	6	7	7	6	7	7	6	6
03	1	1	3	7	7	5	4	4	4	7	1
04	2	1	3	6	3	5	5	4	5	4	4
05	2	1	3	6	6	3	4	4	4	7	7
06	2	1	3	6	7	5	5	5	5	6	3
07	2	2	3	6	6	6	6	6	6	6	6
08	2	2	3	5	6	4	4	4	4	4	3
09	1	2	3	7	7	4	4	4	4	4	4
10	1	2	3	7	7	4	4	4	6	6	6
11	1	2	3	6	7	5	6	6	6	7	6
12	1	2	3	5	4	3	4	4	4	5	4
13	2	2	3	4	6	4	4	4	4	4	4
14	2	2	3	4	3	2	4	3	4	4	2
15	2	2	2	2	5	3	4	4	3	4	1
16	2	2	3	6	7	3	5	4	5	7	4
17	1	2	3	4	6	3	3	5	4	4	3
18	1	2	3	7	7	5	5	6	6	6	5
19	1	2	2	6	6	4	4	4	5	6	1
20	1	2	3	7	7	4	4	4	5	6	4
21	1	2	3	5	5	5	5	5	6	5	5
22	1	2	1	6	6	6	6	6	7	7	7
23	1	2	3	7	7	7	7	7	7	7	7
24	2	2	3	6	6	7	6	7	7	7	7
25	2	2	3	7	7	5	5	6	5	7	4
26	1	2	3	7	7	5	6	5	6	7	4
27	1	1	2	7	7	6	6	6	6	6	5
28	2	1	3	7	7	5	5	6	5	5	5
29	2	1	1	7	7	4	7	6	7	7	4
30	1	1	3	1	1	1	1	1	1	4	1
31	1	1	3	7	7	3	5	5	5	6	6
32	2	1	3	5	6	5	6	5	6	5	5
33	2	1	1	7	7	5	4	5	3	3	3
34	2	1	3	6	6	5	4	4	5	3	3
35	1	1	2	1	4	1	1	1	1	1	1
36	1	1	2	7	6	6	4	5	5	6	5
37	2	1	3	7	7	4	4	4	4	7	4
38	2	1	3	6	6	6	6	7	7	7	7
39	1	1	1	5	4	3	4	4	4	4	5
40	1	1	3	7	7	3	3	3	4	4	5

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
41	1	1	2	4	5	5	4	5	5	5	3
42	1	1	2	1	4	1	1	3	2	2	5
43	2	1	3	7	5	3	4	3	4	6	4
44	2	1	2	5	7	5	4	3	5	4	2
45	1	1	2	7	6	5	3	5	6	6	6
46	1	1	3	6	5	5	5	5	6	4	4
47	2	1	3	2	2	2	2	3	4	4	2
48	2	1	1	3	4	4	4	3	4	6	5
49	1	2	3	4	5	4	4	4	4	4	4
50	1	2	3	2	4	3	4	4	4	4	4
51	1	2	3	3	4	2	5	4	4	4	4
52	2	2	2	6	6	5	4	4	6	2	2
53	2	2	3	7	6	6	5	4	5	5	2
54	1	1	3	7	7	4	4	6	5	5	4
55	2	1	3	3	3	1	2	4	4	6	1
56	2	1	3	6	6	5	6	6	7	7	7
57	2	1	1	7	7	3	4	5	5	6	3
58	2	1	3	1	4	1	1	1	6	4	4
59	1	1	1	7	7	5	4	4	4	7	5
60	1	1	2	7	7	5	4	6	5	7	5
61	1	1	1	7	7	7	7	7	7	7	7
62	1	1	1	5	5	3	3	5	5	5	1
63	2	1	2	6	6	6	5	5	6	5	5
64	2	1	3	6	6	5	5	5	6	6	3
65	1	1	2	3	5	1	3	3	3	6	3
66	2	2	3	6	6	6	6	6	6	6	6

Scores for Perception of "Physical Activity  
as Games of Chance"

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01	1	1	3	4	4	3	4	4	5	4	7
02	1	1	2	2	3	2	3	3	2	2	6
03	1	1	3	1	1	7	7	4	7	7	1
04	2	1	3	5	3	6	4	2	4	4	4
05	2	1	3	1	4	7	4	7	4	4	7
06	2	1	3	1	2	5	5	6	6	6	3
07	2	2	3	2	2	4	4	4	5	4	4
08	2	2	3	4	4	5	4	4	4	4	3
09	1	2	3	4	1	4	4	4	6	6	6
10	1	2	3	4	4	4	4	4	4	4	2
11	1	2	3	5	4	7	6	4	6	4	4
12	1	2	3	3	5	4	4	4	4	4	3
13	2	2	3	6	6	6	4	6	4	4	6
14	2	2	3	1	1	1	4	4	2	1	1
15	2	2	2	1	3	4	4	4	4	4	4
16	2	2	3	1	1	1	1	1	1	2	1
17	1	2	3	4	4	5	3	4	5	4	4
18	1	2	3	2	3	5	4	4	5	4	3
19	1	2	2	2	5	4	4	4	4	4	4
20	1	2	3	5	5	5	5	5	5	5	4
21	1	2	3	6	6	6	6	6	5	5	6
22	1	2	1	5	5	7	6	7	6	7	7
23	1	2	3	3	2	3	2	4	4	4	2
24	2	2	3	5	5	5	5	5	6	6	6
25	2	2	3	4	4	4	4	4	4	4	4
26	1	2	3	6	6	6	6	5	6	7	7
27	1	1	2	5	3	5	5	5	5	5	4
28	2	1	3	5	5	5	4	5	5	5	5
29	2	1	1	4	1	4	4	3	4	4	1
30	1	1	3	5	3	5	5	5	5	4	6
31	1	1	3	2	2	6	4	5	4	2	4
32	2	1	3	4	4	4	4	4	4	4	4
33	2	1	1	5	3	5	4	4	3	7	1
34	2	1	3	4	4	5	5	4	5	4	3
35	1	1	2	7	7	7	4	7	7	4	7
36	1	1	2	1	1	1	1	1	1	1	1
37	2	1	3	4	4	4	4	4	4	4	4
38	2	1	3	3	2	3	3	4	5	4	1
39	1	1	1	3	3	1	3	4	3	4	4
40	1	1	3	2	3	4	5	4	4	5	1

Subject	Sex	Level	Experience	Scale							
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
41	1	1	2	5	4	7	6	6	4	6	4
42	1	1	2	5	6	3	5	4	3	5	2
43	2	1	3	5	4	6	4	6	5	7	3
44	2	1	2	3	2	6	4	4	5	3	1
45	1	1	2	6	5	7	6	6	6	7	7
46	1	1	3	3	2	6	4	4	4	4	2
47	2	1	3	1	1	1	1	1	1	2	1
48	2	1	1	2	2	6	4	4	5	4	5
49	1	2	3	3	3	4	4	4	5	5	5
50	1	2	3	5	6	5	5	5	6	4	5
51	1	2	3	5	5	5	4	4	4	4	4
52	2	2	2	4	2	6	4	4	4	4	3
53	2	2	3	1	3	6	4	4	4	2	5
54	1	1	3	3	4	4	4	4	4	4	3
55	2	1	3	1	1	4	4	4	4	4	1
56	2	1	3	6	6	7	3	6	2	7	7
57	2	1	1	5	5	4	4	4	4	4	5
58	2	1	3	1	1	1	1	1	1	3	1
59	1	1	1	5	6	6	6	6	4	6	7
60	1	1	2	5	5	4	4	3	4	6	1
61	1	1	1	4	4	4	4	4	4	4	4
62	1	1	1	5	5	6	6	6	6	7	6
63	2	1	2	4	4	4	4	4	3	3	3
64	2	1	3	2	3	5	3	5	3	5	3
65	1	1	2	1	1	1	3	3	2	6	6
66	2	2	3	2	2	2	2	2	2	2	2



Appendix F  
Standard Deviations

Standard Deviations of Concept Means  
Among Physical Educator Sub-Groups

Concept	Sub-Groups						
	Male	Female	Junior	Senior	1-2	3-5	Over5
Social Experience	.28	.32	.28	.33	.30	.43	.20
Health and Fitness	.40	.34	.34	.46	.51	.66	.29
Thrill and Risk	.69	.44	1.73	.61	.38	.75	.52
Beauty	.37	.28	.27	.34	.28	.56	.17
Release of Tension	.40	.28	.30	.37	.29	.61	.26
Training Games of Chance	.61	.61	.64	.56	.65	.69	.59
	.32	.48	.46	.33	.42	.28	.44
N=	35	31	40	26	9	14	43